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ANALYSIS OF TACTICAL AUTOMATION REQUIREMENTS FOR THE MANEUVER FUNCTIONAL AREA

ACN 72552

FINAL REPORT

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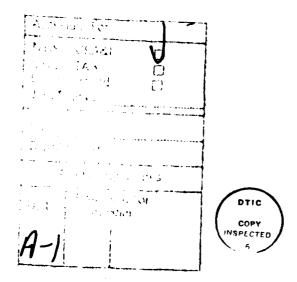
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ABSTRACT

The analysis of Maneuver Functional Area (MFA) automation requirements was conducted to determine the need, value, and impact of extending automation within the Maneuver Battlefield Functional Area (BFA) below the battalion level. The MFA consists of Infantry, Armor, Aviation, Military Police, Engineer, Chemical and Signal units. This is a seven part study: (1) Identification of functionality (software) requirements; (2) Identification of hardware requirements; (3) Assessment of operational benefits; (4) Assessment of operational burdens; (5) Determination of correctable Battlefield Development Plan (BDP) deficiencies; (6) Identification of interface requirements with other BFA control systems; and (7) Cost analysis.

The analysis was designed to determine and compare the various MFA proponent automation alternatives in order to identify each Operational Facility (OPFAC) where the addition of an automated device would substantially enhance the unit's capability to perform its mission. The results of this study will be used to formally document MFA specific hardware and software needs as an extension of the Maneuver Control System (MCS). The MCS represents the Maneuver BFA automated Command and Control (C2) architecture.

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SUMMARY

- 1. Introduction. In July 1987, the Command, Control, Communications and Intelligence (C3I) Directorate, Combined Arms Combat Developments Activity (CACDA), was tasked by HQ, TRADOC, to assess the requirement for Command and Control (C2) automation within battalions in the Maneuver Functional Area (MFA). These MFA organizations consist of Infantry, Armor, Aviation, Engineer, Chemical, Military Police and Signal units. The analysis was required in order to determine the need, value, and impact of extending automation beyond the currently approved Maneuver Battlefield Functional Area (BFA) C2 automation architecture. The results of this study will be used as the basis for documenting MFA specific hardware and software needs at and below the battalion level as an extension of the Maneuver Control System (MCS).
- 2. <u>Purpose</u>. To formally analyze, validate, and document the level or extent of automation necessary to fulfill MFA C2 automation requirements at and below the battalion level.

3. Background.

- a. Two efforts are currently underway which address the need for automation at and below the battalion level: first, the Battlefield Management System (BMS), originally intended only for armor and mechanized infantry units; and second, the individual efforts of several MFA proponents to define their own requirements for automated command and control.
- b. On 29 April 1987, C3I, CACDA, presented an information briefing to the CG, TRADOC, concerning the status of the Battlefield Management System (BMS) and other MFA proponent C2 automation initiatives currently underway. Because no formal study had ever been completed to justify the need for automation as articulated by these MFA proponents, the CG, TRADOC, directed an analysis be conducted to determine specific MFA C2 requirements.
- 4. Objectives. To validate and document tactical automation requirements for battalion level and below in terms of:
- a. Software functionality required by type organization and echelon.
- b. Hardware capability required by type organization and echelon.
- 5. Methodology. A two phased approach was used to determine which MFA proponent by type organization and echelon requires

tactical automation. Phase I examined those individual and collective task/functions performed by each organization and echelon in order to identify those select tasks which, if automated, would enhance the unit's ability to accomplish its mission. Phase II analyzed the hardware capability required to automate the tasks identified in Phase I. Choice of the preferred alternative was based upon:

- a. The identification of operational tasks, both force level and proponent unique high payoff tasks to be automated.
 - b. Operational benefits.
 - c. Operational burdens/disadvantages.
 - d. MAA deficiencies the automation will resolve.
 - e. Comparative costs.
- 6. Analysis Decision Criteria. Due to the composition of the organizations involved and the nature of the candidate hardware systems, system Characteristics, Capabilities, Performance, and Effectiveness (CCPE) were used in lieu of traditional Measures of Effectiveness (MOE). The CCPE was designed to measure whether the introduction of an automation device would significantly improve a unit's mission performance. Components of the CCPE measure were:
- a. The importance of the battlefield task/function toward prosecuting the battle.

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- b. The improvements over existing manual procedures (e.g., timeliness, speed, reliability of delivery).
- c. The ability of the programmed tactical communications to support the information flow.

7. Findings.

- a. Functionality requirements. These requirements were identified by MFA proponents and were based upon the use of doctrinal literature, ARTEP Mission Training Plans (MTP), Soldier Manuals (SM), and in-house subject matter experts. The results of the functional analysis are summarized below.
- (1) Information requirements. Findings indicate that a high degree of commonality does exist among the MFA proponents. This is significant because it would enhance software development, reduce protocol overhead and costs, and facilitate software portability. In addition, unique functionality (software) requirements were identified for engineer, chemical,

military police, aviation and signal units to perform specific staff planning functions and computational work. Figure S-l summarizes the information requirements identified.

- (2) Operational capabilities. The basic operational capability requirements identified by each MFA proponent included: interactive display; operational graphics; ability to transmit, receive, and process formatted messages; audio/visual alerts; and message storage. Additional capabilities identified for users within the MI fleet included: digital map background; position/navigation interface; touch sensitive screen with free draw graphics; interface with onboard equipment via a data bus; and the ability to process and manipulate data. Enhanced capabilities (operational graphics, memory, digital map background, and a Data Base Management System (DBMS)) were considered to be essential for the S2, S3 section and the S1/S4 to permit data manipulation and internal C2 of functional units.
- Hardware requirements. Four candidate hardware solutions were provided from which to determine specific MFA materiel requirements: Handheld Terminal Unit (HTU); Portable Computer Unit (PCU); Transportable Computer Unit (TCU); and a Developmental Item (DEV ITEM). The HTU, PCU, and TCU are members of the Army Tactical Command and Control (ATCCS) Common Hardware/Software (CHS) family of devices. The DEV ITEM will require a materiel solution. Using the matrix and rating scale provided, the contribution of the hardware operational capability to fulfill the automation capability required was evaluated against the task/function listed and a subjective determination was made as to which hardware candidate solution best satisfied the automation needs of the specific Operational Facility (OPFAC) being addressed. Figure S-2 summarizes the materiel solutions for each of the MFA proponent alternatives as approved by the Commander, CACDA.

8. Conclusions.

- a. Sufficient justification was provided to warrant automation devices at those OPFACS identified at figure S-2.
- b. Supplemental software should be developed to support unique staff planning functions within the engineer, chemical, military police, signal, and aviation functional areas.
- c. A significant degree of commonality exists among MFA information exchange requirements both horizontally and vertically.

d. The hardware distribution solution (NDI/DEV ITEM) will not overburden the capability of tactical vehicles to carry the equipment, nor impede the units capability to rapidly displace.

MFA PROPONENT INFORMATION EXCHANGE REQUIREMENTS

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TASK/FUNCTION		, *	, j	. 1	
WARNING ORDER OPERATION ORDER FRAG ORDER FRIENDLY SITUATION RPT ENEMY SITUATION RPT LOGISTICS RPT EQUIPMENT STATUS RPT MBC 1 MBC 2 MBC 3 MBC 4 MBC 5 MBC 6 INTELLIGENCE RPT BATTLE LOSS REPORT/	I S E M AV AR	1 0	E M AV AR C	I S E M AV AR C C C I S E M AV AR C C C	AR AR AR AR AR AR
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ORDER MORTAR, BOMREP, SHELL REPORT	ISEM AV AR	1 2 5	EM ARC	ISEM ARC	AR
					·

^{*} SIGNAL COMPANY COLLOCATES WITH SIGNAL NODE AND SHARES RESOURCES.

Figure S-1. Common information requirements

I-INFANTRY; S-SIGNAL; E-ENGINEER; M-MILITARY POLICE; AV-AVIATION; AR-ARMOR

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TOTAL DEVICES REQUIRED	13,290			TOTAL 2658	TOTAL 10.290 • TOTAL 2658		TOTAL 5409	1 1017. 1017. 45		TOTAL 454			TOTAL 909	1 TOTAL 909 1 TOTAL 2952 1 TOTAL 550 1 TOTAL 358	101AL 550	TOTAL 358

MFA proponent automation requirements Figure S-2.

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⁽a) DEVICES WE'R ALLOCATED IN MCS O & O PLAY.

(b) SIGNAL C2 FUNCTIONS ARE PERCOANED BY THE MSE/TRI TAC ALLOCATED EQUIPMENT.

(c) ONE DEVICE PER SECTION

(d) S1/54 OFFICER NORMALLY COLOCATED WITH BH MAIN CP.

(e) TACCS (SIDPERS) AND ULC (PLL) PROFIDED BY CSSCS.

(i) AIRBOANE TARGET BANDOVER SYSTEM (ATHS) UNDER DEVELOPMENT BY USAAMYC.

(g) BUCLEAR, BIOLOGICAL, CHEMICAL AND RECONMAISSANCE SYSTEM (BRCRS) UNDER DEVELOPMENT BY USACMAS.

- e. The development and fielding of parallel programs (NDI vs DEV ITEM) may not provide automation to all organizations at the same time. NDI off-the-shelf procurement will be faster than a DEV ITEM solution.
- f. The extension of automation below the battalion level contributes to solving a large number of battlefield deficiencies (54) currently recognized within the TRADOC BDP (S), 1986.
- g. Costs of DEV ITEMS are extremely high versus NDI hardware. Although not within the scope of this study, a Cost and Operational Effectiveness (COEA) study should be completed to assess this tradeoff prior to a milestone I decision.

9. RECOMMENDATIONS.

- a. That the concepts identified within this study be approved and used to document the requirement for automation within MFA organizations at and below the battalion level.
- b. That TRADOC C4, with the TRADOC System Staff Officer (TRASSO) responsibilities for the Maneuver Control System (MCS), be designated the single point of contact within HQ TRADOC for all Maneuver Functional Area command and control automation requirements.
- c. That CACDA take action to continue the development of automation requirements at and below the battalion level to include:
- (1) Coordinate/manage development of MFA Subordinate Systems (MFAS2) Operational and Organizational (0&0) plans and Required Operational Capabilities (ROC) DEV ITEM only as enclosures to the MCS annex to the ATCCS O&O plan and ROC.
- (2) Conduct a Cost and Operational Effectiveness Analysis (COEA)/Abbreviated Analysis (AA) to assess the relative effectiveness and cost of the hardware solutions identified as they pertain to developing, fielding and operating each alternative.
- d. That USAARMC, as the CACDA executive agent for Close Combat Heavy C2 automation requirements, prepare the DEV ITEM ROC in coordination with the USAIC.

CHAPTER 1

INTRODUCTION

- General. In July 1987, the Command, Control, Communications, and Intelligence (C3I) Directorate, Combined Arms Combat Developments Activity (CACDA), was tasked by HQ, TRADOC, to assess the requirement for Command and Control (C2) automation within battalions in the Maneuver Functional Area These MFA organizations consist of Infantry, Armor, (MFA). Aviation, Engineer, Chemical, Military Police and Signal units. The analysis was required in order to determine the need, value, and impact of extending automation beyond the currently approved Maneuver Battlefield Functional Area (BFA) C2 automation architecture. The results of this study will be used as the basis for documenting MFA specific hardware and software needs at and below the battalion level as an extension of the Maneuver Control System (MCS).
- 1-2. Problem. The Army requires automation within its C2 system which assists commanders and staffs to rapidly acquire timely tactical information, assess the requirement for new actions, determine appropriate courses of action, and direct the activities of subordinates. For units in the MFA, the MCS provides such automation. However, the approved requirement only provides automation from corps through battalion level. improve the vertical and horizontal flow of information beyond the currently approved MCS architecture, several MFA proponents have been developing Operational and Organizational (O&O) plans to define additional hardware/software needs for their particular units at and below the battalion level. The level or extent of automation necessary to fulfill these parallel C2 initiatives, however, had never been formally analyzed, validated, nor documented. A comprehensive study was therefore necessary to formally identify MFA C2 automation requirements at and below the battalion level. Only in this way can we define a common C2 automation architecture that will ensure technical and tactical interoperability, effective system integration, and consistency with the Army Command, Control and Subordinate System (CCS2) architecture.

1-3. Background.

a. Two efforts are currently underway which address the need for automation at and below the battalion level: first, the Battlefield Management System (BMS), originally intended only for armor and mechanized infantry units; and second, the individual efforts of several MFA proponents to define their own requirements for automated command and control.

- (1) The BMS concept, currently under exploration by the Armor Center, provides automated C2 within the battalion maneuver force down to the individual fighting vehicle. It is viewed as an extension of MCS for the processing, display and distribution of information in order to facilitate battlefield decision-making, employment, and sustainment of units below the battalion level.
- (2) Concurrently, O&O plans were being developed by the Engineer, Military Police, and Chemical Schools to identify their unique hardware/software needs. These MFA proponents were defining their own requirements for automated C2 in order to enhance the vertical and horizontal exchange of information beyond that which MCS currently provides.
- b. On 29 April 1987, C3I, CACDA, presented an information briefing to the CG, TRADOC, concerning the status of the Battlefield Management System (BMS) and other MFA proponent C2 automation initiatives currently underway. Because no formal study had ever been completed to justify the need for automation as articulated by these MFA proponents, the CG, TRADOC, directed an analysis be conducted to determine specific MFA C2 requirements.
- c. To properly evaluate the extension of C2 automation within MFA organizations below the battalion level, the need exists to address these requirements as an integral part of the Army's CCS2 architecture. Therefore, a common understanding of the CCS2 architecture is essential to assess the value and impact of automated information exchange (technical, staff, and command-related) and its relevance to decision-making in support of the MCS. An explanation of the CCS2 concept is provided at appendix E.
- 1-4. Objectives. To validate and document tactical automation requirements for battalion level and below in terms of:
- a. Software functionality required by type organization and echelon.
- b. Hardware capability required by type organization and echelon.

1-5. Scope.

- a. This study will encompass C2 automation requirements, at and below the battalion level, for units within the MFA.
- b. This study will evaluate automation requirements for the battalion command group and coordinating staff (e.g., S1, S2,

- S3, S4), company headquarters (e.g., commander, executive officer, and first sergeant), platoon headquarters (e.g., platoon leader and platoon sergeant), and squad or individual vehicle.
- c. Information flow (input/output) will be evaluated as it relates to performance of functional tasks.
- d. The study will explicitly address interface requirements with other automated control systems (i.e., AFATDS, FAADC2I, ASAS, and CSSCS).
- e. Life cycle costs will be given in the "Big 5" format for each alternative ("Big 5" format includes: development, production, military construction, fielding, and sustainment).
- 1-6. <u>Limitations</u>. This study will not include automation requirements for special (functional) staff officers such as the chaplain, maintenance officer, and medical officer.
- 1-7. Assumptions. The following assumptions were deemed necessary for this study.

- a. The Army Tactical Command and Control System (ATCCS) Common Hardware/Software (CHS) will interface with AFATDS, CSSC2, FAADC2I, MCS Block 1 (MILSPEC), and MCS Block 2 (NDI Hewlett Packard 330/310).
- b. Any developmental hardware/software required by MFA proponents will interoperate with ATCCS CHS, AFATADS, CSSCS, FAADC2I, MCS Block 1 and MCS Block 2.
- c. The usable life of computers is 10 years (includes technological obsolescence, wear and tear, and useful life).
- d. The Army of Excellence (AOE) 92 force structure is a valid baseline for determining unit quantities.
- e. Reserve round-out units will be accounted for and will receive C2 hardware with their active counterpart.
- f. Those MFA battalion size and below units assigned at Echelons Above Corps (EAC) will require automation which interoperates with units assigned to corps and below.

CHAPTER 2

DISCUSSION/ANALYSIS

2-1. Mission Needs.

- a. The need for improvements in the Army Tactical Command and Control System (ATCCS) arises from the operational demands of AirLand Battle doctrine. To achieve the necessary agility, initiative, depth, and synchronization, tactical commanders (i.e., corps and below) must make sound and timely decisions and rapidly direct the activities of subordinates and supporting units. To support this process, organizations, equipment, and procedures must be available to permit tactical commanders to apply military leadership in the decisive generation and application of combat power.
- Today, tactical command and control, at and below the battalion level, is primarily performed in a manual mode. and message traffic provide information for manual processing and correlation of battlefield data within current command posts. Because the existing manual system evolved in an environment far less dynamic than that required by AirLand Battle doctrine, significant deficiencies exist. Increased mobility and greater distances between friendly elements affect responsiveness; lengthy C2 voice and slow analogue message traffic permits the enemy to identify our key command and control nodes. Manual transcription and processing of information introduces inaccuracies. To eliminate these deficiencies, the need exists to extend automation at and below the battalion level at key nodes within the MFA to enhance the vertical and horizontal flow of critical information and to permit commanders to perform C2 of functional units in support of AirLand Battle doctrine.
- 2-2. Methodology. A two phased approach was used to determine which MFA proponent by type organization and echelon requires tactical automation. Phase I examined those individual and collective task/functions performed by each organization in order to identify those select tasks which, if automated, would enhance the unit's ability to accomplish its mission. Phase II analyzed the hardware capability required to automate the tasks identified in Phase I. Figure 2-1 summarizes the study methodology used. For details of the study methodology outline, refer to appendix F. Choice of the preferred alternative was based upon:
- a. The identification of operational tasks, both force level and proponent unique high payoff tasks to be automated.

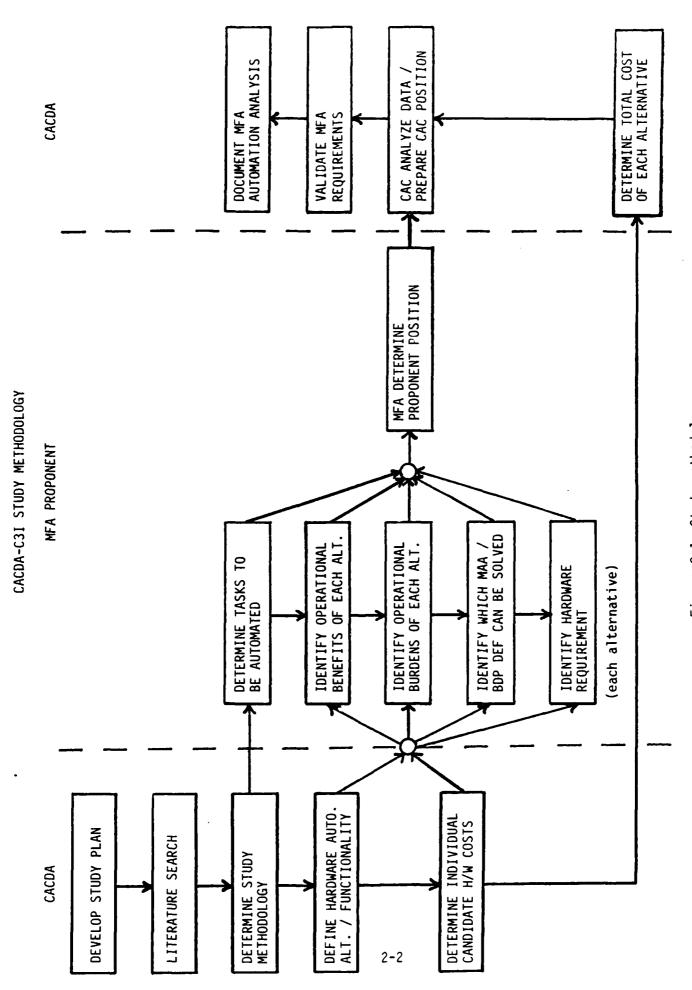


Figure 2-1. Study methodology

- b. Operational benefits of each alternative.
- c. Operational burdens/disadvantages of each alternative.
- d. Mission Area Analysis (MAA) deficiencies the automation alternatives will resolve.
 - e. Comparative costs of the alternatives.
- 2-3. Alternatives. Due to the unique composition (e.g., mission, battlefield employment, equipment) associated with each MFA proponent, a single automation alternative (i.e., field to platoon level) could not be utilized to encompass MFA requirements as a whole. Therefore, the need existed to first identify alternatives for each MFA proponent. Alternatives were selected based on the combination of two variables: organizational unit by type (e.g., mechanized, airborne, infantry); and organizational echelon (e.g., battalion, company, platoon, squad/individual vehicle). Figure 2-2 summarizes the alternatives as selected by each of the MFA proponents for this analysis.
- 2-4. Analysis Decision Criteria. Due to the composition of the organizations involved and the nature of the candidate hardware systems, system Characteristics, Capabilities, Performance, and Effectiveness (CCPE) were used in lieu of traditional Measures of Effectiveness (MOE). The CCPE was designed to measure whether the introduction of an automation device would significantly improve a unit's mission performance. Components of the CCPE measure were:

- a. The importance of the battlefield task/function toward prosecuting the battle.
- b. The improvements over existing manual procedures (e.g., timeliness, speed, reliability of delivery).
- c. The ability of the programmed tactical communications to support the information flow.
- 2-5. Proponent Analysis Results. The following is a description of each of the analysis results provided by the proponent school/center. Proponent deliverables included: functionality (software) requirements; hardware capability requirements; operational benefits, operational burdens, correctable MAA deficiencies, and comparative alternative costs. The CCPE were used to measure the contribution of each alternative to operational effectiveness. Each alternative's contribution to the CCPE, based upon the analysis data provided, determined the best alternative. Also provided is a discussion of other significant findings associated with the alternatives, as well as a comparison of the alternatives.

Figure 2-2. Alternatives

- a. Functionality requirements.
- (1) General. The identification of specific task/functions, by type organization and echelon, which would provide a high operational payoff, if automated, were identified and analyzed by each respective MFA proponent. Functionality requirements were based upon the use of doctrinal literature, ARTEP Mission Training Plans (MTP), Soldier Manuals (SM), and in-house subject matter experts. Each proponent determined the decision criteria/MOEs used to determine the specific tasks to automate.
- (2) Infantry. Results of the functional analysis performed by the Infantry School identified the need to automate specific operational tasks at the battalion (commander, S2, S3, S1/S4 and scout platoon) and company (commander) level within light, airborne, air assault, motorized, and mechanized infantry (M113) battalions, and to the battalion S3 officer and platoon level within mechanized infantry (M2) battalions. The basic operational capabilities identified included: interactive display; operational graphics; ability to transmit, receive, and process formatted messages; audio/visual alerts; and message storage. Enhanced capabilities (operational graphics, memory, digital map background, and a Data Base Management System (DBMS)) were considered to be essential for the S2, S3 section and the S1/S4 to permit data manipulation and internal C2 of functional units. No infantry unique functionality (software) requirements were identified. A listing of the specific high payoff tasks identified for each echelon is provided within section I of appendix G.
- (3) Armor. Results of the functional analysis performed by the Armor School identified the need to automate specific operational tasks at the battalion (commander, S2, S3, S1/S4, and scout platoon) and company (commander, executive officer) level within the Ml and M60 fleet, and to the individual fighting vehicle level within the Ml fleet. basic operational capabilities identified for users within the M60 fleet included: interactive display; operational graphics; ability to transmit, receive, and process formatted messages; audio/visual alerts; and message storage. Additional capabilities identified for users within the Ml fleet included: digital map background; position/navigation interface; touch-sensitive screen with free-draw graphics; interface with onboard equipment via a data bus; and the ability to process and manipulate data. Enhanced capabilities (operational graphics, memory, digital map background, and a DBMS) were considered to be essential for the S2, S3 section and S1/S4 to permit data manipulation and internal C2 of functional units. No armor unique functionality (software) requirements were identified. listing of the specific high payoff tasks identified for each echelon is provided within section I of appendix H.

- Engineer, Chemical, and Military Police. of the functional analysis performed by the Engineer, Chemical and Military Police Schools identified the need to automate specific operational tasks at the battalion (S2, S3, engineer commander), company (commander/headquarters), and platoon level within light, airborne, air assault, motorized, and heavy The basic operational capabilities identified included: interactive display; operational graphics; ability to transmit, receive and process formatted messages; audio/visual alerts; and message storage. Enhanced capabilities (operational graphics, memory, digital map background, and a DBMS) were considered essential for the S2, S3 section and company commander/headquarters to permit the functional commander and staff to manipulate data and perform C2 of functional units. Unique functionality requirements (e.g., to process NBC reports, calculate obstacle/barrier requirements) were identified for each of these proponents. These requirements exist at the battalion and company level and require the ability to manipulate, process, and store technical data used to generate pertinent force level information for command and staff decision Automation requirements defined at the platoon level support the need to rapidly exchange technical and force level data due to the specialized operational missions performed by these platoons. A listing of the specific high payoff tasks identified for each echelon is provided within section I of appendix I, J, and K.
- (5) Aviation. Results of the functional analysis performed by the Aviation School identified the need to automate specific operational tasks at the battalion (S2, S3), company (commander/headquarters), and platoon level for attack and assault aviation battalions and at the battalion and company level for utility aviation battalions within light, airborne, air assault, and heavy divisions. Company and platoon level operational capabilities identified included: interactive display; ability to transmit, receive, process, and store formatted messages; and the ability to operate on the move. Enhanced capabilities (operational graphics, memory, digital map background, and a DBMS) were considered essential for the S2 and S3 section to permit the functional commander and staff to manipulate data and perform C2 of functional units. functionality requirements (e.g., aircraft performance planning, flight mission planning) were identified for use at the battalion level. Automating special staff planning functions would expedite the generation of aviation force level data required for command and staff decision-making as well as to enhance internal C2 of functional units. Automation requirements at the platoon level support the need to rapidly exchange critical data (e.g., enemy intelligence, target information) as well as to provide interoperability with attached maneuver forces. A listing of the specific high payoff tasks identified for each echelon is provided within section I of appendix L.

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- (6) Signal. Results of the functionality analysis performed by the Signal School identified the need to automate specific operational tasks at the battalion (commander, S2, S3) and platoon (signal node) level within light, airborne, air assault, motorized, and heavy divisions. Signal company command posts normally collocate with one of their platoons and, thus, are capable of sharing information resources. Operational capabilities identified for the battalion commander included: interactive display; ability to transmit, receive, process, and store formatted messages; audio/visual alerts; and operational graphics. Enhanced capabilities (operational graphics, memory, digital map background, and a DBMS) were considered essential for the S2 and S3 to permit data manipulation and C2 of functional units. Unique functionality requirements were identified (e.g., site equipment status, network management) at both echelons. A listing of the specific high payoff tasks identified for each echelon is provided within section I of appendix M.
- (7) Comparison of information requirements. Based on the high payoff tasks submitted by each of the MFA proponents, a comparison of MFA information requirements was conducted.
- (a) See figure 2-3 for a summary of MFA information exchange requirements. This matrix was compiled using each proponent's high payoff tasks (cross-leveled with anomalies resolved).
- (b) Information exchange commonality was assessed. Figures 2-4, 2-5, and 2-6 summarize the degree of commonality identified at battalion, company, and platoon level. Findings indicate that a high degree of commonality does, in fact, exist among the MFA proponents. The averages at each echelon are: battalion 75%; company 69%; and platoon 72%. This is significant because it would enhance software development, reduce protocol overhead and costs, and facilitate software portability.
- (c) A comparison of message text formats required to transmit the force level/technical data is at figure 2-7. A total of 42 message formats would be required. Presently, all but seven of these are to be incorporated within MCS Version 11 software which provides the Initial Force Level Control System (IFLCS) capability. This indicates that a high degree of commonality also exists between echelons which would again facilitate software portability and reduce software developement costs.
- (8) Survey of MFA automation functionality requirements. To reinforce the definition of user requirements as defined by each respective MFA proponent, a survey was initiated to obtain the subjective judgments of company grade MFA officers attending the Combined Arms Service Staff School

MFA PROPONENT INFORMATION EXCHANGE REQUIREMENTS

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^{*} SIGNAL COMPANY COLLOCATES WITH SIGNAL NODE AND SHARES RESOURCES.

Figure 2-3. Common information requirements

I-INFANTRY; S-SIGNAL; E-ENGINEER; M-MILITARY POLICE; AV-AVIATION; AR-ARMOR

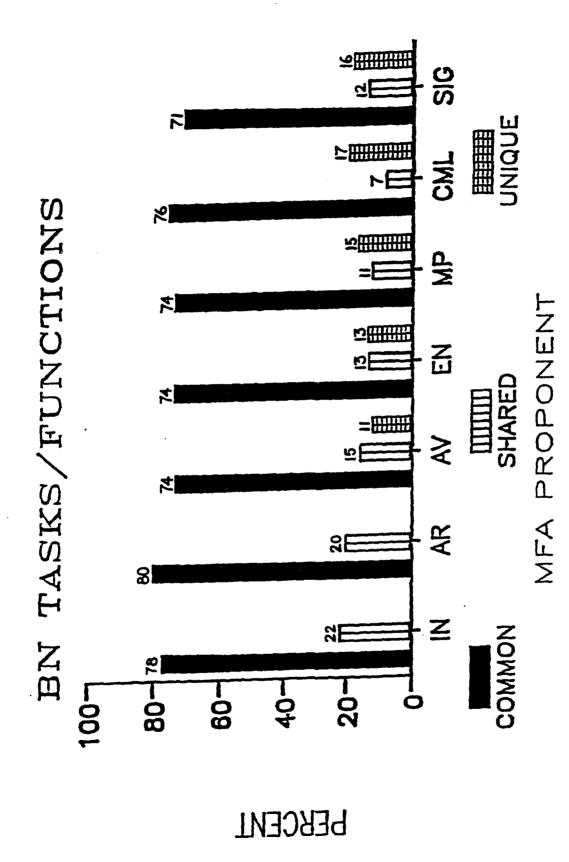
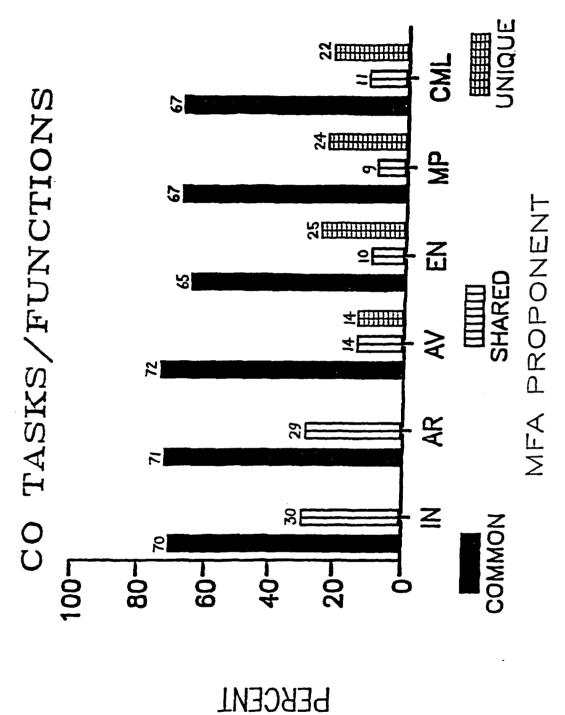


Figure 2-4. Commonality of battalion level functions

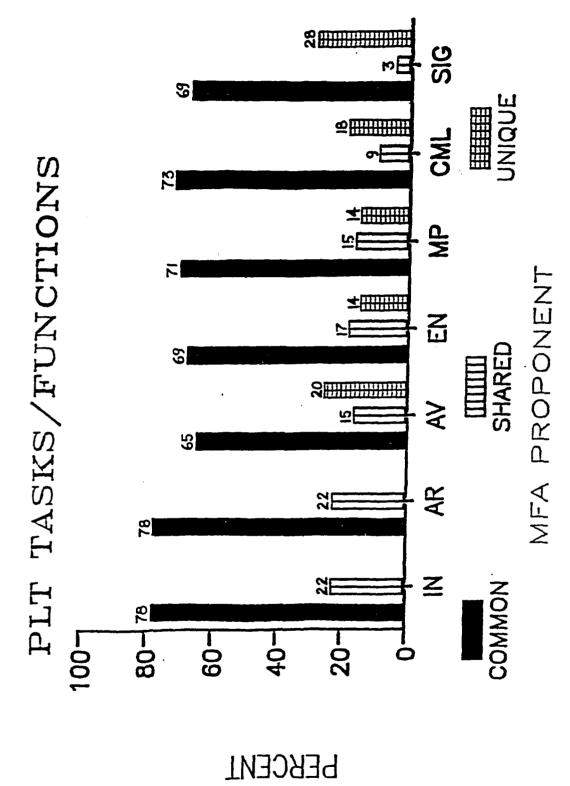
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Figure 2-5. Commonality of company level functions



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Figure 2-6. Commonality of platoon level functions

MFA PROPONENT MESSAGE SET

MESSAGE SET	MESSAGE TITLE	BN	со	PLT	SQD/VEH
STANAG (9)	LAND FORCES SITUATION DEPORT	v	v	v	v
A331 A326	LAND FORCES SITUATION REPORT ENEMY SITUATION REPORT	X X	X	X	X
A066	COMMANDER'S LOGISTICS REPORT		X	X X	X
A055	PERSONNEL REPORT	X X	X X	X	X X
A023	CONTACT REPORT	Ŷ	x	X	Ŷ
A023 A032	TRANSFER OF AUTHORITY	X	X	^	^
A022	AIRSTRIKE WARNING MESSAGE	x	x	X	v
A065	GENERAL TEXT	Ŷ	â	x	X X
A021	C2 INFORMATION SYSTEM STATUS REPORT		^	^	^
NOLI	OF THE ORDER STORES STATES REPORT	^			
USMTF (25)					
A423	ORDER MESSAGE	X	X	X	X
C488	NBC 1 REPORT	X	X	X	X X
G489	NBC 2 REPORT	X	X	X	
C443	NBC 3 REPORT	X	X	X	
C447	NBC 4 REPORT	X	X	X	
C501	NBC 5 REPORT	X	X	X	
C506	NBC 6 REPORT	X	X X X	X	
G1 31	INTELLIGENCE SUMMARY	X	X		
C120	MIJI FEEDER REPORT	X	X	X	Χ -
C503	EFFECTIVE DOWNWIND	X	X	X	
D210	CALL FOR FIRE	X	X	X	X
C521	WEATHER FORECAST	X	X	X	
C505	FRIENDLY NUCLEAR STRIKE WARNING	X	X	X	X
A263	SUPPORT-AIR CORRIDOR	X	X	X	
D670	AIR SUPPORT REQUEST	X	X	X	
C507	CHEMICAL DOWNWIND	X	X	X X X	
C460	COMMUNICATIONS SPOT REPORT	X	X	X	
A211	FIRE MISSION - SUBSEQUENT ADJUSTMENT		X	X	X
G270	FIRE PLANNING ARTILLERY TARGET LIST	X	X	X	X
A280	SUPPORT - DAMAGE AVOIDANCE REPORT	X	X	X	
B705	ALERT AIRCRAFT/SAM STATUS REPORT	X	X	X	
F251	METEOROLOGICAL - FALLOUT MESSAGE	X	X	X	
A063	ENGINEER DATA SHEET UPDATE REPORT	X	X	X	
A262	SUPPORT - BATTLEFIELD GEOMETRY	X	X	X	X
S012	MOBILITY STATUS REPORT	X	X	X	X
ACCS (6)					
S010	ENEMY ACTIVITY/WEAPONS	v	v	X	X
F750M	AIRSPACE CONTROL	X	X X	x	â
S028	ENGINEER SUPPORT REQUEST	x	x	x	^
S034	SUPPLY SHURTAGE AND OPERATIONAL	x	â	x	
	CONSTRAINT		^	^	
S023	AIRHEAD LOCATION/ACTIVITY	X			
S029	AIR DEFENSE ARTILLERY PRIORITY	X	X	X	
OTUED (2)					
OTHER (2)	BARKIER REPORT	v	v	v	
	SHELL, MORTAR, BOMREP REPORT	X X	X X	X X	X
	SHELL, MUNIAN, DUMKER KEPUKI	^	^	^	^

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Figure 2-7. MFA proponent message text formats

- (CAS3) at Fort Leavenworth. Participants were asked to subjectively evaluate the contribution of the task/functions provided by their proponent school to improve the degree to which a unit could accomplish its mission. The findings of the survey follow.
- (a) Figure 2-8 highlights the student profile of CAS3 student participants. A total of 201 subjects participated, of which 85 considered themselves as having minimal experience, 63 as being computer literate, 45 as being regular users, and 8 as having extensive automation experience. Survey results of students who identified themselves as having no automation experience were not utilized in order to avoid skewing the survey results.
- (b) Results of the sur ey are summarized within figure 2-9. No new task/functions were identified during the survey and, in fact, subjects on the whole desired to automate fewer tasks as supported by the percentages depicted. Overall, the survey results reinforced the functional analysis findings of each proponent, supporting a need for automation by echelon, as indicated.

b. Hardware capability requirements.

- (1) General. The following is a description of each of the MFA automation alternatives as defined through the analysis of MFA requirements. Four candidate hardware solutions were provided from which to determine specific MFA materiel requirements: Handheld Terminal Unit (HTU); Portable Computer Unit (PCU); Transportable Computer Unit (TCU); and a Developmental Item (DEV ITEM). The HTU, PCU, and TCU are Non-Developmental Items (NDI) and members of the ATCCS Common Hardware/Software (CHS) family of devices. The DEV ITEM will require a materiel solution. Figure 2-10 provides a listing of the essential characteristics of each device. (Note: Characteristics are based on the Army Command and Control (ACCS) request for proposal and draft BMS O&O plan and may not totally reflect objective system capabilities).
- (2) Hardware analysis. Figure 2-11 provided the format for the comparison of each hardware candidate solution to each task/function identified by type organization and echelon. Using the rating scale provided, the contribution of the hardware operational capability to fulfill the automation capability required was evaluated against the task/function listed. Refer to section II of appendix G through M for each proponents analysis results. From the numerical values assigned within the matrix by ean proponent, a subjective determination was made as to which hardware candidate solution best satisfied the automation needs of the specific OPFAC being addressed. Figure 2-12 summarizes the materiel solutions for each of the MFA proponent alternatives as approved by the Commander, CACDA.

CASS SURVEY OF AUTOMATION REQUIREMENTS (STUDENT PROFILE)

TOTAL		AR	Z	Z	CML	2	A	<u>8</u> 16
201	CAS3 PARTICIPANTS	26	52	29	2	2	£ E	30
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8	BN STAFF	19	7	72	8	18	-	78
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10	PLT LDR	20	21	17	<u>+</u>	21	23	17

Figure 2-8. CAS3 survey student profile

EVALUATION OF MFA PROPONENT (% OF CONCURRENCE) TASK/FUNCTIONS CAS3

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SIG 78		75	
A 6	0		
M 6	85	7.7	
CML 81	88	8 13	
Ш 0 2	85	89	
Z Z	28	38	
AR 95	78	29	61
Z	00	PLT	SQD/VEH

Figure 2-9. CAS3 survey results

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Figure 2-10. Hardware candidate characteristics

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MFA proponent automation requirements Figure 2-12.

⁽a) DETICES WERE ALLOCATED IS MES O & 0 PLAS.

(b) SIGNAL C2 FUNCTIONS ARE PERFOAMED BY THE MESCYTAI TAC ALLOCATED EQUIPMENT.

(c) ONE DEVICE PER SECTION

(d) SI/S4 OFFICER MONALLY COLOCATED WITH BY MAIN CP.

(e) TACCS (SIDPLES AND TAC (PIL.) PROTICED BY CSSCS.

(f) AIRMORN TARGET BARDOTER SISTEM (ATMS) GROEN DEVELOPMENT BY USAAFMC.

(g) PUCLEAR, BIOLOGICAL, CHEMICAL AND RECOGNAISSAMCE SISTEM (BDCRS) WEORR DEVELOPMENT BY USACMAS.

Justification of hardware requirements follow (Note: some hardware requirements were previously covered by the MCS O&O plan; therefore, no additional hardware is required):

(a) Infantry.

- <u>l</u>. Battalion commander. Allocated an HTU within light, motorized, airborne, air assault, and mechanized (M113) organizations. Allocated a DEV ITEM within mechanized (M2) organizations to enhance interoperability and ensure mutual functionality when cross attached with M1 units. Device provides automation to the command group/TAC when forward of the Tactical Operations Center (TOC) to C2 attached forces. Facilitates automated interoperability with brigade TAC, battalion TOC and access to force level and functional control system data base.
- 2. Battalion S2. Allocated a PCU(V2) within light, motorized, airborne, air assault, and mechanized battalions. Provides S2 the capability to manage and update intelligence data base files and to transmit/receive critical intelligence data. (Note: Requirement identified within current MCS O&O plan.)
- 3. Battalion S3 section. Allocated a PCU(V2) within light motorized, airborne, air assault, and mechanized battalions. Provides S3 section capability to rapidly collect, process, and manage combat information. Enhances unit synchronization to conduct command and control and coordination across BFA lines. (Note: Requirement identified within current MCS O&O plan.)
- $\underline{4}$. Battalion S3. Allocated a DEV ITEM within mechanized (M2) battalions only. Enhances use of M2 as fighting vehicle and prevents degradation of C2 capability due to physical separation of commander and S3. Facilitates dissemination of orders and guidance.
- 5. Battalion Sl/S4. Allocated a PCU (V2) within light, motorized, airborne, air assault, and mechanized battalions. Device provided Sl/S4 to manage personnel and logistical resources/force level data base.
- 6. Battalion scout platoon. Allocated two HTU devices per platoon within light, motorized, airborne, air assault, and mechanized (M113) battalions. Allocated two DEV ITEMS within mechanized (M2) battalions. Expedites intelligence gathering, and early warning capability of battalion. DEV ITEM issued within M2 units to provide mutual functionality. Two devices are required to support doctrinal employment of scouts by section.

- 7. Company commander. Allocated an HTU within light, motorized, airborne, air assault, and mechanized (M113) battalions. Allocated a DEV ITEM within mechanized (M2) organizations. Expedites passage/receipt of force level/technical data. DEV ITEM enhances interoperability when cross attached with M1 units. Facilitates synchronization of combat operations.
- 8. Platoon leader. Allocated a DEV ITEM within mechanized (M2) organizations. Enhances the receipt and transmission of combat data, reaction time, and interoperability when cross attached with M1 units. Provides capability to rapidly coordinate the movement of forces in order to decisively generate combat power at the right time and place.

(b) Armor.

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- <u>l</u>. Battalion commander. Allocated a DEV ITEM within Ml and an HTU within M60 battalions. Provides the command group/TAC automation interoperability with units when forward of TOC. DEV ITEM maximizes inherent capabilities of Ml as a fighting vehicle. Facilitates automated interoperability with brigade TAC, battalion TOC, and access to force level and functional control system data base.
- $\underline{2}$. Battalion S2. Allocated a PCU(V2) within armor M1 and M60 battalions. Provides S2 the capability to manage and update intelligence data base files as well as transmit and receive critical intelligence data. (Note: Requirement identified within current MCS O&O plan.)
- 3. Battalion S3 section. Allocated a PCU(V2) within armor M1 and M60 battalions. Provides S3 section the capability to rapidly collect, process and manage combat information. (Note: Requirement identified within current MCS O&O plan.)
- $\underline{4}$. Battalion S3. Allocated a DEV ITEM within Ml and an HTU within M60 battalions. Enhances use of Ml/M60 as a fighting vehicle and supports C2 interoperability considering physical separation of commander and S3. Facilitates dissemination of orders and guidance and provides access to force level and functional control system data base.
- 5. Battalion Sl/S4. Allocated a PCU(V2) within armor M1 and M60 battalions. Enhances Sl/S4 capability to manage personnel and logistics resources and force level data base entries.
- $\underline{6}$. Battalion scout platoon. Allocated two DEV ITEMs within armor Ml and two HTUs within armor M60 battalions. Enhances near real time passage of intelligence

data and early warning. Two devices are required to support the doctrinal employment of scouts by section.

- 7. Company commander. Allocated a DEV ITEM within armor Ml and an HTU within armor M60 battalions. Enhances near real time passage/receipt of force level and technical data between echelons. DEV ITEM enhances interoperability when cross attached with M2 fleet. Maximizes inherent capability of Ml and facilitates synchronization of unit operations.
- $\underline{8}$. Company executive officer. Allocation of a DEV ITEM within armor M1 and an HTU within armor M60 battalions. Provides C2 capability in support of fighting X0 concept.
- 9. Platoon leader. Allocated a DEV ITEM within armor Ml organizations. Enhances inherent capabilities of Ml as a fighting vehicle, provides interoperability with M2 fleet when cross attached and expedites the receipt and passage of combat information. Provides capability to rapidly coordinate the movement of forces in order to generate combat power at the right time and place.
- $\underline{10}$. Individual vehicle. Allocated a DEV ITEM within armor Ml organizations. Enhances inherent capabilities of Ml as a fighting vehicle, target handoff, and the transmission and receipt of combat information.

(c) Aviation.

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- \underline{l} . Battalion commander. No device allocated. Normally collocated with aviation battalion TOC or maneuver TOC where a device is available.
- 2. Battalion S2. Allocated a PCU(V2) within attack and assault aviation battalions and a PCU(V1) within utility aviation battalions. Provides S2 the capability to manage and update intelligence data base files as well as to transmit/receive critical intelligence data. (Note: Requirement identified within current MCS O&O plan.)
- 3. Battalion S3. Allocated a PCU(V2) within aviation attack and assault helicopter battalions and a PCU(V1) within utility helicopter battalions. Provides S3 capability to rapidly collect, process, and manage combat information. (Note: Requirement identified within current MCS O&O plan.)
- $\underline{4}$. Battalion Sl/S4. No device allocated. Normally collocated with battalion main command post where a device is available.
- $\underline{5}$. Company commander. Allocated an HTU within attack, assault, and utility helicopter battalions. Expedites the

passage and receipt of force level and technical data. Facilitates interoperability with maneuver forces. Facilitates response times of aviation assets, target handoff, and the passage of intelligence data to maneuver units.

- <u>6.</u> Platoon leader. No device allocated. Automation functions performed using Airborne Target Handover System (ATHS) being developed by the Aviation School. Need exists to develop User Interface Requirements (UIRs) between the MCS/ATHS systems to provide interoperability and maximize use of both systems.
 - (d) Engineer, Chemical, and Military Police.
- <u>l</u>. Battalion commander. Engineer battalion commander allocated an HTU within light, infantry, motorized, airborne, air assault and heavy units. Allows the commander to manage engineer resources, distribute assets, and maintain the status of all mobility and countermobility operations. No devices are allocated to chemical and military police battalion commanders. The commander is normally collocated at his own or maneuver force headquarters where a device is available.
- 2. Battalion S2. Allocated a PCU(V1) within light, infantry, motorized, airborne, air assault and heavy units. Mechanized engineer battalions are allocated a PCU(V2). Provides S2 the capability to manage and update intelligence data base files as well as to transmit and receive critical intelligence information. (Note: Requirement identified within current MCS O&O plan for divisional as well as active component engineer corps combat and combat heavy battalions.)
- 3. Battalion S3. Allocated a PCU(V1) within light, infantry, motorized, airborne, air assault, and heavy units. Mechanized engineer battalions are allocated a PCU(V2). Provides S3 capability to rapidly collect, process, and manage combat information. (Note: Requirement identified within current MCS O&O plan for divisional as well as active component engineer corps combat and combat heavy battalions.)
- $\underline{4}$. Battalion Sl/S4. No device allocated. Normally collocated with battalion main command post where a device is available.
- 5. Company commander/company headquarters. Allocated a PCU(V1) within light, infantry, motorized, airborne, air assault and heavy units. Combat engineer companies are allocated a PCU(V2). Expedites passage and receipt of force level and technical data and provides the capability to perform those unique functions identified (i.e., fallout predictions).
- 6. Platoon leader. Allocated an HTU within light, infantry, motorized, airborne, air assault, and heavy battalions. Expedites passage of proponent unique technical

data as a result of their unique missions and functions on the battlefield. Facilitates timely execution of instructions and the reallocation of critical assets.

(e) Signal.

- <u>l</u>. Battalion commander. Allocated an HTU within light, infantry, motorized, airborne, air assault, and heavy units. Facilitates the C2 of signal assets, provides capability to test and monitor the communications and automation network. The commander is mobile most of the time.
- 2. Battalion S2. Allocated a PCU(VI) within light, infantry, motorized, airborne, air assault and heavy units. Provides S2 the capability to manage and update intelligence data base files as well as transmit/receive critical intelligence data. (Note: Requirement identified within current MCS O&O plan.)
- 3. Battalion S3. Allocated a PCU(V1) within light, infantry, motorized, airborne, air assault, and heavy units. Provides S3 capability to rapidly collect, process, and manage combat information. (Note: Requirement identified within current MCS O&O plan.)

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- $\underline{4}$. Battalion Sl/S4. No device allocated. Normally collocated with battalion main command post.
- $\underline{5}$. Company commander. No device allocated. Commander normally collocated with one of the platoon signal nodes where there is access to a device.
- $\underline{6}$. Platoon nodes. Allocated a PCU(V1) within light, infantry, motorized, airborne and heavy units. Facilitates the C2 of signal nodes to ensure effective communications. Enhances synchronization of communications support, displacements, and the dissemination of combat information.
- (3) Proponent hardware distribution quantities. A total of 13,290 devices (NDI and DEV ITEM) will be required to support the hardware distribution strategy outlined above. Figure 2-13 provides the distribution quantities. Quantities are depicted to reflect both the Active Component (AC) and Reserve Component (RC) fielding requirements. Note that these totals DO NOT reflect those devices currently allocated within the MCS O&O plan to support automation at and below the battalion level. Presently, a total of 1,367 NDI devices are programmed to support battalion level automation within the current MCS program. Section VII of appendix G through M identifies each MFA proponent's quantity/distribution of devices.
- c. Operational benefits. Specific operational benefits associated with fulfilling the alternatives, as defined by each

MFA PROPONENT	Z	ION	DEV -	. II &	TO JAL
	(AC)	(RC)	(AC)	(RC)	
INFANTRY	230	1012	888	168	
ARMOR	101	941	3905	462	
AVIATION	277	177			
MILIIARY POLICE	354	555			
ENGINEER	919	2033			
CHEMICAL	174	376			
SIGNAL	218	140			
JOTAL	2633	5234	4793	630	13,290

CONTRACTOR CONTRACTOR

Figure 2-13. MFA proponent hardware distribution quantities

MFA proponent, are listed within section III of appendix G, H, The operational benefits derived from fielding MFA requirements as an extension of MCS are provided

- Implementation of a DEV ITEM solution for heavy forces (M1/M2) facilitates the ability to exchange operators due to similiar operating systems and the physical characteristics This also enhances continuous operations
- The processing, Random Access Memory (RAM), and memory storage capabilities of the DEV ITEM may facilitate the
- (3) DEV ITEM equipment will be built to military This will increase costs but will provide equipment which can withstand condition extremes found
- MFA proponent, are listed within section III of appen I, J, K, L, and M. The operational benefits derived fielding MFA requirements as an extension of MCS are below.

 (1) Implementation of a DEV ITEM solution for forces (MI/M2) facilitates the ability to exchange opto similiar operating systems and the physical charactof the computers. This also enhances continuous operating systems and the physical charactory of the computers. This also enhances continuous operating systems expected to the DEV ITEM may facilitate of MCS common software.

 (2) The processing, Random Access Memory (RAM memory storage capabilities of the DEV ITEM may facilitate of MCS common software.

 (3) DEV ITEM equipment will be built to military specification (MILEPEC). This will increase costs but provide equipment which can withstand condition extrement on the battlefield.

 (4) The extension of automation at and below level enhances unit synchronization to execute tactic operations through the timely acquisition of information operations through the timely acquisition of information operating, and rapid processing and dissemination of combat support, and combat service support information combat support, and combat service support information of the provide operating the manual command and control synthesis of the provides and the service support information of the provide operating the manual command and control synthesis of the provides as streamlined command and control synthesis of the provides and the provide operation of the provide operation o (4) The extension of automation at and below battalion level enhances unit synchronization to execute tactical operations through the timely acquisition of information, (reporting), and rapid processing and dissemination of combat, combat support, and combat service support information.
 - The equipment will be used by the TOE personnel currently operating the manual command and control system.
 - Provides a streamlined command and control system which can provide the necessary force level and technical data
 - An NDI/DEV ITEM solution will not overburden the existing transportation requirements nor impede the speed of
 - Operational burdens. Specific operational burdens associated with fulfilling the alternatives, as defined by each MFA proponent, are listed within section IV of appendix G, H, I, J, K, L, and M. The operational burdens derived from fielding MFA requirements as an extension of MCS are provided below.
 - The proliferation of different types of equipment (NDI/DEV ITEM) inhibits operator and equipment exchanges and complicates training, personnel management, and software
 - (2) Fielding of parallel systems will cause development

of nonstandard training support packages and affect training in professional development courses.

- (3) Maintenance management will be more complex. Separate stockages of replacement parts and additional training of maintenance personnel will be required.
- (4) Configuration management for replacing and updating software may become more complex.
- (5) Vehicle modifications may be required within the host vehicle to provide adequate space to mount a DEV ITEM.
- (6) Current NDI maintenance strategy requires contractor support. Contract help may not be timely or available in a mid to high intensity conflict. Items cannot be fixed forward, thus a large quantity of floats may be required. This increases transportation requirements and stockage levels.
- e. BDP deficiencies. The extension of MCS automation within MFA organizations at and below the battalion level contributes to solving fifty four deficiencies identified in the TRADOC Battlefield Development Plan (BDP), 1986. These deficiencies are numbers 3, 4, 7, 8, 9, 10, 12, 16, 25, 28, 32, 33, 36, 38, 40, 41, 44, 49, 50, 58, 64, 84, 85, 86, 88, 93, 94, 98, 106, 107, 118, 127, 132, 133, 140, 142, 145, 153, 154, 159, 180, 182, 195, 207, 224, 237, 238, 273, 280, 293, 303, 306, 318, and 314. The fielding of automation as an extension of MCS will solve all, or in part, the BDP operational deficiencies noted. A listing of the specific BDP deficiencies identified by each proponent is provided within section V of appendix G, H, I, J, K, L, and M.
- f. Cost analysis results. This section reflects the cost estimates, as provided by TRAC-WSMR, required to support fielding of each MFA proponent's automation alternatives. Cost data will be provided to reflect both Active and Reserve Component procurement options. Hardware configuration acquisition and maintenance cost estimates are provided in best and worst-case estimates. Best-case cost estimates assume a basic contract award for a multiyear procurement obligation. Worst-case estimates assume both a one year basic award contract and year-by-year options. Costing data will be presented in constant dollars using 1988 as the base year. For the purposes of this study, the useable life of computers is ten years. A life cycle cost estimate, less software, will be provided to present total MFA proponent requirement costs.
- (1) Figure 2-14 presents each respective MFA proponent's hardware configuration acquisition and maintenance costs, best-case, in FY88 dollars. Total cost equals \$1.305 billion to support fielding of 13,290 devices. Cost data is

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	ms1	(RC)	20 M	55 M						75 M
	ı	=								
	DEV ITEM	(AC)	173 M	740 M						913 M
	OE)		1,	71						6
\$ ***										
NA PARTIE	COST	(RC)	41 M	35 M	ω 9	20 M	87 M	14 M	7 M	210 M
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****	IQN	(AC)	26 M	Σ	8	13 M	36 M	W 9	10 M	107 M
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	MFA PROPONENT		INFANTRY	ARMOR	AVIATION	MILIJARY POLIŒ	ENGINEER	CHEMICAL	SIGNAL	
W. 2000	Ā		H	ARI	۸۸	M	E	H)	SI	

Hardware and maintenance cost estimate - Best Case (FY88C)

based upon recurring unit production costs per system and initial spares plus sustainment (i.e., materiel and labor) costs.

- (2) Figure 2-15 presents each respective MFA proponent's hardware configuration and maintenance costs, worst-case, in FY88 dollars. Total cost equals \$1.630 billion to support fielding of 13,290 devices.
- (3) Figure 2-16 reflects the total life cycle costs, less software, to support total system fielding. The average cost based upon a best/worst-case estimate equals \$1.530 billion.

g. Training.

- (1) The development of C3I systems at and below the battalion level will cause increased requirements for institutional, sustainment, and new equipment training. This increase is based on the proliferation of computer systems throughout the battlefield and the resulting expansion of the user target audience. Broad training considerations to support this development are basic computer literacy, computer skills for common hardware/software, computer networking skills, and MFA specific skills.
 - (2) Training burdens associated with MFA systems are:
- (a) An increase in tasks required by the supervisors, operators, and maintainers.
- (b) Changes in mission task requirements with computer systems which impact the skill, training, and aptitude requirements for MFA system operation.
- (c) An increase in the numbers of personnel who will require specialized schooling and support for user units.
- (d) Sustainment training in automation tasks which requires specialized schooling and support for user units.
 - (3) Training benefits of MFA systems are:
- (a) When the training programs are established for MFAs, it will provide a training base for higher level C3I systems.
- (b) The expansion of current and future training programs established for the MCS and family of ATCCS.
- (c) The centralization of training programs for computer C3I systems at MFA proponent institutional training sites.

MFA PROPONENT	- IQ	NDI - COS1	DEV ITEM - COSI	- ws1	TOTAL
	(AC)	(RC)	(AC)	(RC)	
INFANTRY	37 M	87 M	208 M	24 M	
ARMOR	12 M	M 6h	888 M	W 99	
AVIAIION	11 M	7 M			
MILIIARY POLICE	17 M	28 M			
ENGINEER	50 M	123 M			
CHEMICAL	Σ 8	19 M.			
SIGNAL	16 M	10 M			
JOTAL	151 M	293 M	1096 M	¥ 06	1630 M

Figure 2-15. Hardware and maintenance cost estimate - Worst case (FY88C)

	7	ION	DEV ITEM	£
	(BES 1)	(WORS 1)	(BEST)	(WORST)
RESEARCH & DEVELOPMENT	1 M	T Z	% ×	30 M
PRODUCT ION	190 M	275 M	573 M	₩ 289
MILITARY CONSTRUCTION	Σ 0	Σ 0	Σ 0	ω 0
FIELD ING *	NEGL]	NEGL IGIB LE	NEGL IGIBLE	3LE
INITIAL SPARES	13 M	17 M	1 Μ	Σ
SUSTAINMENT	135 M	162 M	431 M	517 M
SOFIWARE	9	18.0	OBI IBO	
10 I AL	. 339 M	H55 M	1030 M	1235 M
		(BES1) - 1369 M	(WORST) - 1690 M	
		(AVG) 1530 M	1530 M	

Figure 2-16. Life cycle costs

* INCLUDES NET TRAINING, HARDWARE SHIPMENT COSTS

COSTS INCLUDE ORF/RCF AND TRAINING BASE

NOJE:

CHAPTER 3

CONCLUSIONS

- 3-1. Sufficient justification was provided through the results of the functional analysis to warrant automation devices at those OPFACS identified at figure 2-12.
- 3-2. A requirement exists for the development of supplemental software to support unique staff planning functions within the engineer, chemical, military police, signal, and aviation functional areas.
- 3-3. A significant degree of commonality exists among MFA information exchange requirements both horizontally and vertically.
- 3-4. The hardware distribution solution (NDI/DEV ITEM) will not overburden the capability of the tactical vehicles to carry the equipment nor impede the unit's capability to rapidly displace.
- 3-5. The development and fielding of parallel programs (NDI vs DEV ITEM) may not provide automation to all organizations at the same time. NDI off-the-shelf procurement will be faster than a DEV ITEM solution.
- 3-6. The extension of automation below the battalion level contributes to solving a large number of battlefield deficiencies (54) currently recognized within the TRADOC BDP (S), 1986.
- 3-7. Costs of DEV ITEMS are extremely high versus NDI hardware. Although not within the scope of this study, a Cost and Operational Effectiveness (COEA) study should be completed to assess this tradeoff prior to a milestone I decision.

CHAPTER 4

RECOMMENDATIONS

- 4-1. That the concepts identified within this study be approved and used to document the requirement for automation within MFA organizations at and below the battalion level.
- 4-2. That TRADOC C4, with the TRADOC System Staff Officer (TRASSO) responsibilities for the Maneuver Control System (MCS), be designated the single point of contact within HQ TRADOC for all Maneuver Functional Area command and control automation requirements.
- 4-3. That CACDA take action to continue the development of automation requirements at and below the battalion level to include:
- a. Coordinate/manage development of MFA Subordinate Systems (MFAS2) Operational and Organizational (O&O) plans and Required Operational Capabilities (ROC) DEV ITEM only as enclosures to the MCS annex to the ATCCS O&O plan and ROC.
- b. Conduct a Cost and Operational Effectiveness Analysis (COEA)/Abbreviated Analysis (AA) to assess the relative effectiveness and cost of the hardware solutions identified as they pertain to developing, fielding, and operating each alternative.
- 4-4. That USAARMC, as the CACDA executive agent for Close Combat Heavy C2 automation requirements, prepare the DEV ITEM ROC in coordination with the USAIC.

APPENDIX A STUDY DIRECTIVE

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 RULEMA ACONDIT NS CH FT ROCLELAN AL //ATSH-CP//
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 AT AND SELOUT THE SATIALION OF THE SRIFTING. THE CS TRADOC DIRECTED AN AMMUNSIS TO ASSESS SHS AND OTHER TRACTICAL AUTO ATTION REQUIREMENTS
 AT AND SELOUT THE BATTALION LEVEL.

 B. THE SRS IS A PROPOSED CONCEPT FOR AUTO MATED C2 WITHIN THE
 BN MANEUWER FORCE. DOWN TO INDIVIDUAL FISHTING WENGLES. IT WOULD
 BE FIELDED AS AN EXTENSION OF THE FIAMEUWER CONTROL STSTEM (RCS) TO
 PROVIDE PROCESSING. DISPLAY AND DISTRIBUTION OF INFORMATION TO

 A-2

FACILITATE BATTLEFIELD DECISION MAKING. EMPLOYMENT AND SUSTAINMENT OF UNITS BELOW THE BN LEVEL.

PAGE 03 RUCLATA 21 02 UNCLAS

- C. THE MCS PRESENTLY PROVIDES C2 AUTOMATION WITHIN THE MFA UNE T COMMAND POSTS FROM CORPS THROUGH 8 No. IN ORDER TO ENHANCE THE VERTICAL EXCHANGE OF INFORMATION WITH C2 AUTOMATION 8 EYOND THAT WHICH THE MCS PROGRAM WILL PROVIDE, OPERATIONAL AND ORGANIZATIONAL (OR 0) PLANS AND ARCHITECTURES ARE BEING DEVELOPED BY. THE ENGINEER, MP AND CHEMICAL SCHOOLS TO MEET THEIR UNIQUE C2 HARDWARE/SOFTWARE NEEDS. AFTER THE PROPONENT SCHOOL AND/OR CETTER FOR EACH OF THESE ARE AS DEVELOPS AN ORD PLAN TO PROVIDE AUTOMATED C2 FUNCTIONALITY, THAT PLAN WILL BE INCORPORATED INTO THE MCS DED PLAN AS A SEPARATE AND EX. THE MFA C2 SYSTEM, ONCE APPROVED, WILL BE A SUBGRDINATE SYSTEM OF MCS.
- 3. PROBLEM. TWO EFFORTS ARE CURRENTLY UNDER MAY WHICH ADDRESS THE NEED FOR AUTOMATION AT AND BELOW THE MANEUVER BN LEVEL. THE BMS. ORIGINALLY INTENDED ONLY FOR ARMOR AND INFANTRY UNITS. CAN BE EXTENDED TO THE OTHER TYPE UNITS WITHIN THE WEA. CONCURRENTLY. SOME MFA PROPONENT SCHOOLS ARE DEFINING THEIR OWN RED WIREMENTS FOR AUTOMATED C2 AS SUBGROUNATE SYSTEMS OF MCS. IN EITHER CASE. THE LEVEL OR EXTENT OF AUTOMATION TO FULFILL THE REQUIREMENT HAS NEVER BEEN FORMALLY ANALYZED. VALIDATED OR DOCUMENTED.
- 4. ALTERNATIVES. ALTERNATIVES HUST BE CONSIDERED SEPARATELY FOR

PASE 04 RUCLATA21 02 UNCLAS

EACH MFA. AND WILL BE COMPRISED OF THE COMBINATION OF THE VARIABLES LISTED BELOW:

- A. ORGANIZATIONAL UNIT BY TYPE (E.G., AR, ABN, INF, ETC.).
- 8. ORGANIZATIONAL LEVEL (E.G., BN. CO, PLT, SOO N.
- 5. A NALYTICAL IS SUES FOR EACH ALTERNATIVE:
- A. FOR EACH LEVEL (E.G., 8N, CO, PLT, INDIVIDUAL VEH/SQD) WITHIN EACH TYPE BN (E.G., ABN, AR, INF, ETC.) WHAT AUTOMATION HARDWARE AND ASSOCIATED SOFTWARE FUNCTIONS ARE REQUIRED?
- B. WHAT ARE ITHE OPERATIONAL BENEFITS OF FULFILL ING THIS REQUIREMENT AT EACH LEYEL?
- C. WHAT ARE THE FIELDING COSTS AND OPERATIONAL BURDENS (E.G., THE J HA IN T., TRANS., ETC.,) ASSOCIATED WITH FULFILLING THESE RELUIREMENTS?
- O. WHAT BOP DEFICIENCIES CAN BE CORRECTED BY SUCH AUTOMATION? 6. SCOPE. THIS IS A NON-MAJOR STUDY. HO TRAC HAS DETERMINED THE FOLLOWING:
- A. CACDA-C3 I IS THE STUDY AGENCY AND WILL PREPARE THE STUDY PLAN. CONDUCT THE STUDY. AND WRITE THE STUDY REPORT.
- 8. ALL REQUIREMENTS FOR AMC COST AND PERFORMANCE DATA WILL BE SUB-RITTED THROUGH DIR, REQUIREMENTS AND PROGRAMS DIR (ATRC-RP), HQ

PAGE 05 RUCLAIA21 02 UNCLAS

TRA 0-RPD. FT MONR OE. VA 23651-5143.

C. CACDA-C31 IS A UTHORIZED DIRECT COORDINATION WITH USA ARMS.
USA BS. USAES. USA MVNS. USAMPS. USAS IGS. USACRES. USAA DAS. USAFAS.

ROU II NE

US LOGC AND USA SOL SPT CEN, AS REQUIRED, TO COMOUCT AND SUPPORT THE S STUDY EFFORT.

- D. TRAC-USER (ATRC-USE) WILL PROVIDE COST ANALYSIS SUPPORT.
- E. TRAC-FLYN (A TR C-FS) WILL PROVIDE QUALITY CONTROL OVERSIGHT FOR THE STUDY. APPROVE THE STUDY PLAN. PROVIDE APPROPRIATE ANALYTICAL ASSISTANCE AND CERTIFY THE STUDY REPORT.

 7. PILESTONES.
- A. 24 JUL 57 STUDY PLAN SUBNITTED TO TRAC-FLYN (ATRC-FS) FOR APP RO VAL.
- 8. 13 OCT 87 DRAFT REPORT SUBMITTED TO TRAC-FLYN (ATRC-FS) AND HO TRADOC (ATCD-N) FOR CERTIFICATION.
- C. 20 OCT 87 FI NAL REPORT SUBMITTED TO CO USACAC FOR
- D. 28 OCT 87 FINAL REPORT SUBMITTED TO HE ITRADOC (ATCD-RE) FOR APPROVAL.
- 8. HO TRADOC POC IS CHT ROBERT H. KENT, AY 680-4417.

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N NN &

APPENDIX B

ESSENTIAL ELEMENTS OF ANALYSIS

- 1. What operational functions/tasks should be automated by type organization and echelon?
- a. What force level/common software functionality is required?
- b. What unique software functionality is required by any of the MFA proponents?
- ?. What are the operational benefits, by type organization and echelon, of fulfilling this requirement?
- 3. What are the operational burdens associated with each alternative?
- a. What are the transportability constraints associated with each alternative?
- b. What are the maintenance burdens on operators, maintenance personnel, and logistical support associated with each alternative?
- c. What are the training impacts associated with each alternative?
- 4. What battlefield deficiencies may be solved, all or in part, by each alternative?
- a. Which Mission Area Analysis (MAA) deficiencies can be corrected?
- b. Which associated Battlefield Development Plan (BDP) deficiencies can be corrected?
- 5. What are the MFA hardware requirements by:
 - a. Quantity and battlefield location?
 - b. Handheld terminal unit?

- c. Portable computer unit (commercial or ruggedized)?
- d. Transportable computer unit (commercial or ruggedized)?
- e. Pevelopmental computers?

- 6. What are the life cycle and comparative costs of each individual alternative?
- a. What is the estimated cost of each candidate hardware solution?
- b. What is the estimated total cost of fulfilling the requirement (hardware fielding) for each alternative?
- c. What is the estimated cost for software for each alternative?
 - (1) What are the MFA force level/common software costs?
- (2) What are the unique software and system integration costs?
- d. What are the estimated hardware/software maintenance costs associated with each alternative?
- e. What are the associated training costs associated with each alternative?
- 7. Is each alternative supportable by the programmed tactical communications?

APPENDIX C

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APPENDIX D

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Commander US Army Soldier Support Center ATTN: ATSG-DDB Ft Benjamin Harrison, IN	1
Commander US Army Combined Arms Combat Developments Activity ATTN: ATZL-CAC/ATZL-CAC-CD/ Fort Leavenworth, KS 66027	l per

APPENDIX E

COMMAND, CONTROL, AND SUBORDINATE SYSTEM (CCS2 CONCEPT)

- 1. The CCS2 architectural concept (figure E-1) establishes the basis for automation and communication which comprise an interoperable and survivable tactical command and control system and serves as the basic architectural concept for the development of the Army Tactical Command and Control System (ATCCS). The CCS2 concept recognizes the existence of five BFAs (Maneuver Control, Fire Support, Air Defense, Combat Service Support, and Intelligence/Electronic Warfare), each with its own control element (e.g., Maneuver Control System), to manage, coordinate, and process internal information while coordinating information flow with other BFA control elements.
- 2. The purpose of CCS2 architectural concept is to provide timely, accurate, and reliable information to and from the force commander and his staff, the BFA commanders and their staffs, and subordinate systems. This results in both the generation of information needed by the force commanders and staff for decision-making and the dissemination of the force commander's guidance and directives for actions which influence the battlefield environment. The command and control system also contains the means for achieving the required information flows between mutually supporting command and control nodes, particularly the force commander, his staff, and the constituents of the force.
- 3. The CCS2 vertical architecture partitions Army tactical command and control into three classes of interconnected subsystems (figure E-2): the force level control system (command); functional control system (control); and subordinate systems. The force level control system integrates information across all five BFA control systems, each functional control system integrates information from the subordinate systems to permit the functional commander (e.g., division commander) to perform his internal C2 of functional units. The subordinate systems perform detailed work peculiar to the system (e.g., fallout predictions).
 - a. Force Level Control System (FLCS).
- (1) This system is composed of the commander and staff at each Army echelon (e.g., corps, division) and their facilities, personnel, procedures, automation, communications, etc.
- (2) FLCS provides the C2 means for the commander and staff at each echelon and the means of coordinating among BFAs at each echelon. Specifically, its functions are to facilitate:

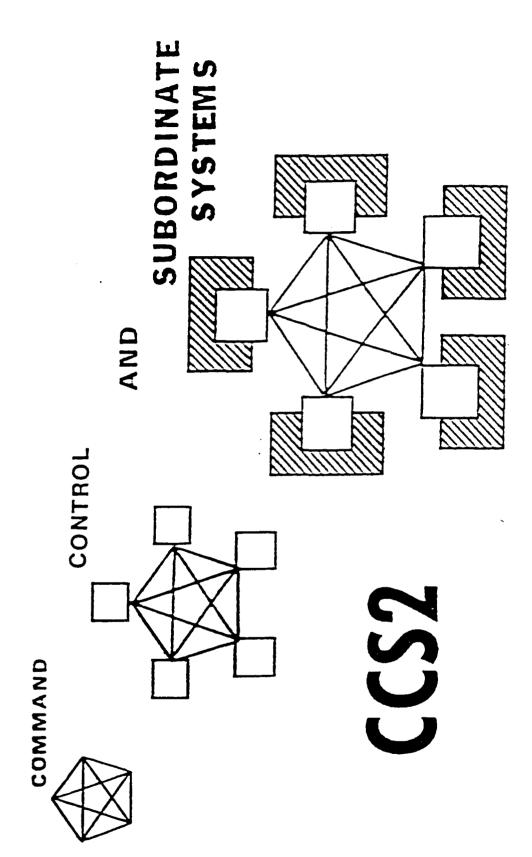


Figure E-1. CCS2 architecture

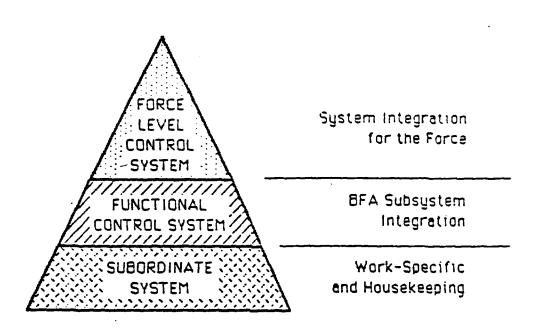


Figure E-2. CCS2 vertical architecture

- (a) Decisions regarding the employment and sustainment of combat power.
 - (b) Directions to subordinate and supporting units.
 - (c) Coordination across BFAs at each force echelon.
- (3) The FLCS is a netted distributed system which permits the force level commander to command and control from any of his echelon's command posts, or from the operational facilities at the subordinate functional control nodes (e.g., Division Artillery (DIVARTY) Command Posts(CP)) or from CPs at the next lower echelon. FLCS develops an integrated combined arms and services concept of operations for the AirLand force.
 - (4) The functional control systems support the FLCS by:
- (a) Collecting data from the five functional segments and structuring them into meaningful information for the force commander and his staff.
- (b) Disseminating guidance and direction from the force commander and his staff.
- (c) Coordinating across BFA lines (e.g., DIVARTY to Division Support Command (DISCOM)).
 - b. Functional Control Systems.

- (1) An echelon of a force, corps and below, containing up to five functional control systems, each corresponding to a BFA. A functional control system is the set of personnel, procedures, and materiel systems that perform one or more functions of that BFA.
- (2) The general functions performed by BFA control systems are to:
- (a) Develop decisions concerning the employment and sustainment of combat power appropriate to the BFA.
 - (b) Direct subordinate and supporting units.
 - (c) Coordinate among BFA subsystems.
 - c. Subordinate Systems.
- (1) Subordinate systems are manual or automated systems which perform unique command and control of functional segments

and collect meaningful force level and technical data for the BFA commander and his staff.

- (2) Each subordinate system is composed of a set of personnel, procedures, and materiel that together perform one or more activities of a BFA work-specific or housekeeping function. Housekeeping functions are similar for all five BFAs and are concerned with providing for intra-BFA communications, security, and protection of BFA resources and self-sustainment of these resources.
- (3) Information required by a subordinate system to perform its tasks is generated both internally, by the subordinate system, and externally, by the functional control system, other subordinate systems, and command and control systems of allied nations and other services. These external systems may also receive information produced by a subordinate system while it performs C2 or unique technical functions. Together, the information inputs required to perform these tasks and the information outputs produced by them constitutes the content of the subordinate system data base.

APPENDIX F

METHODOLOGY DESCRIPTION

- 1. <u>General</u>. The contents of this appendix outline the detailed methodology used in the MFA analysis of tactical automation requirements.
- 2. Specific mmthodology steps.
- a. Study Plan. This document fulfills the first step within the study methodology.
 - b. Literature search.

- (1) Conduct a DTIC/DLSIE search with the following key terms: Command and Control (C2) systems, display systems, computer applications, decision-making, computers.
 - (2) Acquire and review documents.
- (3) Interview experts in cost benefit analysis, ATCCS automation, and other pertinent areas.
 - (4) Develop bibliography.
 - c. Define, in detail, the candidate hardware solutions.
 - (1) Review pertinent documents and interview experts.
- (2) Conduct preliminary analysis and identify appropriate candidate hardware solutions.
- (3) Determine functionality provided by each candidate solution selected.
- (4) Conduct Joint Work Group (JWG) meeting with MFA proponents, HQ TRADOC, and other interested parties to gain feedback on hardware candidate solutions.
- (5) Modify hardware candidate solutions/functionality based on feedback.
- (6) Expand on hardware candidate solutions and functionality and document new alternatives as developments occur throughout the study, but limit additions to fit within the resource constraints of this study.
 - d. Determine, in detail, the MFA automation alternatives.

- (1) Review pertinent documents (e.g., ARTEP, MTP, SM) and interview in-house subject matter experts.
- (2) Conduct preliminary analysis to determine specific tasks performed.
 - (3) Group similar tasks by type organization/echelon.
 - (4) Develop preliminary alternatives.
- (5) Gain school/center approval of automation alternatives.
- e. Determine MFA technical/unique and force level tasks (software functionality) by type organization and echelon.
- (1) Develop criteria to determine which operational tasks would provide a high payoff if automated.
- (2) Compare criteria to tasks by type organization and echelon.
- (3) Identify those tasks which would provide a positive payoff if automated.
- (4) Prioritize selected tasks by type organization and echelon.
- (5) Gain school/center approval of selected tasks (software functionality) identified.
 - (6) Document MFA proponent position.
 - f. Define the operational advantages of each alternative.
- (1) Determine the capability for MFA technical and force level information to be supported by each alternative.
- (2) Determine the benefit of an automated interface with the BFA unique systems.
- (3) Determine the benefit of developing unique software to interface with MCS common software.
 - g. Determine conclusions and recommendations.

(1) Determine conclusions concerning the alternatives and other relevant findings.

- (2) Determine MFA automation recommendations.
- (3) Brief conclusions and recommendations to MFA In-Process Review (IPR).
 - (4) Finalize proponent recommendations.
 - h. Define the costs of each alternative.
 - Determine the hardware costs for each alternative.
 - (2) Determine the software costs for each alternative.
- (3) Determine the maintenance costs for the hardware in each alternative.
- (4) Determine the maintenance costs for the software in each alternative.
 - (5) Determine the training costs for each alternative.
- (6) Determine the costs associated with implementing the interfaces required.
- (7) Define and determine other costs as the study progresses.
 - i. Validate MFA automation requirements.
 - (1) Validate hardware distribution by:
 - (a) Type organization.
 - (b) Type echelon.
 - (c) Quantity of devices required (AC/RC).
 - (2) Combine requirements where appropriate.
 - (3) Add additional devices where required.
 - (4) Screen for nonessential redundancy.
- j. Document the MFA analysis of tactical automation requirements, and recommendations in a final report.
 - (1) Develop outline.
 - (2) Develop draft.

- (3) Coordinate draft.
- (4) Finalize the final report.
- (5) Distribute the final report.

APPENDIX G

INFANTRY SCHOOL STUDY DELIVERABLES

SECTION I. TASK/FUNCTIONS TO BE AUTOMATED

BARBAR	
HIGH PAYOFF TASK/FU TO BE AUTOMA	
TYPE UNIT: LT/ABN/AAST/MTZ/MECH/INF	ECHELON: EN
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G-I-2	

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT	: LT/ABN/AAST:MTZ/MECH!INF	ECHELIM: ON	
PRIORITY	TASK/FUNCTION	FORCE LEVEL	MPA CNIQUE
•	WARNING ORDER	·.	
2	OPERATION ORDER	••	
3	FRAG ORDER	X	
4	PALL FOR FIRE	X	
=	FOSITION, NAVIGATION	X	
Ę	SPOT REPORT	X	
7	SITUATION REPORT (FRIENDLY/ENEMY)	X	
ę	CONTACT REPORT	<u>:</u>	
a a	MINEFIELD REFORT		
10	PATROL REPORT	<u> :</u>	
	OBSTACLE REPORT	\ddot{z}	
* 5	ERILGE REFORT	X	
13	SENSITIVE ITEM REPORT .	X	
14	MICI REPORT	Х	
15	LOGISTIC REPORTS	X	
16	EQUIPMENT STATUS REPORT	X	
7	NBC 1/4	X	
18	NBC 0/3/5	Х	
1.9	EFFECTIVE DOWNWIND MESSAGE	$\ddot{\mathbf{x}}$	
2.0	SHELL REPORT	₹	
21	INTELLIGENCE SUMMARY	X	
20	PERSONNEL DAILY SUMMARY		

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATEI

TYPE UNIT: LT/ABN/AAST/MTZ/MECH/INF ECHELOW: FLT

FRICRITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
	WARNING ORDER	X	
2	FRAG ORDER	X	
3	CALL FOR FIRE	X	
4	POSITION/NAVIGATION	••	
Ē	SPOT REPORT	X	
.	SITUATION REPORT (FRIENDLY ENEMY)	X	
~	CONTACT REPORT	ä	
<u> </u>	MINEFIELD REPORT	X	
ģ	PATROL REPORT	X	
	OBSTACLE REPORT	$\stackrel{\cdot \cdot \cdot}{\lambda}$	
	MBC 1 4	7.	
	NBC 2/3 5	X	
13	EQUIPMENT STATUS REPORT		
	BERGUNE, DVILA GLANEA	Ÿ	

SECTION II. IDENTIFICATION OF HARDWARE REQUIREMENTS

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CALL FOR FIRE	1	3	: 1	3	. 1	: 3	3	3	2	- 3	. :			
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PERSONNEL CAILY SUMMARY	3	- 3		3	•	•	-	-	•	•	•	•	•	•

HARLWARE COLUTION: HTT

RATING STALE:

- . NO CONTRIBUTION

 1 MODERATE CONTRIBUTION

 3 ESSENTIAL CONTRIBUTION

G-II-2

CANDIDATE SOLUTIONS

TYPE UNIT: LT/ABN/AASLT/INF ECHELON: 3N OPERATOR: \$3 \$EC. \$1/\$4, \$2 HARDWARE OPERATIONAL CAPABILITY HIGH PAYOFF TASKS TO BE AUTOMATED DEV ITEM FOU (VI/V2) OR TOU (VI/V2) GOFER FACT FORM FREE FAUDIO/ FRO- FRORE FDIGITAL POS/ AUTO STUFED FROM SEX ON COIST GRAP CTEXT CTEXT VISUAL CESS DATA MAP NAV TOT SENSOR FREE DRW LATA MOVE PLAY HICS MSG MSG ALERT DATA BACKGRD DATA ACQ INFIT GRAPHICS BUS : WARNING ORDER OPERATION ORDER FRAG DROER CALL FOR FIRE POSITION/NAVIGATION SPOT PERORT SITUATION REPORTS (FRIENDLY/ENEMY) CONTACT REPORT MINEFIELD REPORT PATROL REPORT CESTACLE REPORT BRIDGE REPORT SENSITIVE ITEM REPORT MIUL REPORT LOGISTIC REPORTS EQUIPMENT STATUS REPORT XEC 1/4 NBC 0/3/5 EFFECTIVE DOWN WIND MESSAGE SHELL REPORT INTELLIGENCE REPORT FERSONNEL DAILY SUMMARY

HARIWARE SOLUTION: POUNTS

BATING SCALE:

. - NO CONTRIBUTION

A - MODERATE CONTRIBUTION

B - ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: LT/ABN/AASLT/INF ECHELON: CO OPERATOR: CDR. NO. 18G HIGH PAYOFF TASKS TO BE AUTOMATED PCU (VI/V2) ON TCU .VI/V2) ______ TOPER 'ACT TOPN (FMT FREE AUDIO/ PRO- STORE DIGITAL FOS/ AUTO ETUFUS TOESEN PROC TON COIS- GRAP TEXT TEXT VISUAL CESS DATA MAP NAV TEGT SENSOR FREE DRW DATA MOVE PLAY HICS MSG MSG ALERT DATA BACKGRO DATA ACQ INPUT GRAPHICS BUS WARNING ORDER OPERATION ORDER FRAG GROER CALL FOR FIRE POSITION NAVIGATION SPAT REPORT SITUATION REPORT (FRIENDLY/ENEMY: CONTACT REPORT MINEFIELD REPORT PATROL REPORT CESTAGLE REPORT SRINGE REPORT SENSITIVE ITEM REPORT WINI REPORT LOGISTIC REPORTS EQUIPMENT STATUS REPORT NBC 1.4 WEC 3.3 5 EFFECTIVE DOWNWIND MESSAGE SHELL REPORT INTELLIGENCE SUMMARY PERSONNEL DAILY STMMARY

HARDWARE SOLUTION: HTT

RATING STALE:

ZITTEEETZZIC CZ - I

1 - MODERATE MONTREPUTEDA

3 - ESSENTIAL MATRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: LT/ABN/AASLT/INF ECHELON: PLT OPERATOR: SOT PLT LOR, SOT PLT SGT HARDWARE OPERATIONAL CAFABILITY HIGH PAYOFF TASKS TO BE AUTOMATED DEV ITEM PCU (V1/V2) OR TCU (V1/V2) GOPER LACT GOPN (FMT FREE GAUDIO/ (PRO- (STORE GDIGITAL FOS/ LAUTO ETLELD GTOR SEN GRACE) CON CONTROL OF CONTROL | MOVE | PLAY | HICS | MSG | MSG | ALERT | DATA | BACKGRD | DATA | ACQ | INPUT | GRAPHICS | BUS WARNING ORDER FRAG ORDER . 3 13 13 1 CALL FOR FIRE : 3 : 3 . POSITION/NAVIGATION SPOT REPORT SITUATION REPORT (FRIENDLY ENEMY) CONTACT REPORT WINESIETS SESURE PATTIL REPORT CESTACLE REFORT XEC 1 4 NBC 2 3/5 EQUIPMENT STATUS REPORT FERSONNEL DAILY SUMMARY

HARDWARE SOLUTION: HTU

BATING SCALE:

- 1 NO CONTRIBUTION
 - I MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

OPERATOR: BN COR

CANDIDATE SOLUTIONS ECHELON: BN

HIGH PAYOFF TASKS TO BE AUTOMATED : HARDWARE OPERATIONAL CAPABILITY PCU (V1/V2) OR TCU (V1/V2) GOPER GACT COPN OFMIT OFFICE AUDIO/ OPRO- STORE DIGITAL OPRO/ SAUTO OBTLIFLD ICH SEN OPROCE ON ODIS-OGRAPOTEXTOTEXTOVISUAL OCESSIONATA MAPONAVOITGTO SENSOROFREE DAW ODATA: : MOVE : PLAY : HICS : MSG : MSG : ALERT DATA : BACKGRD : DATA : ACQ : INPUT : GRAPHICS : BUS : . 3 13 1313 2313 WARNING ORDER 3 1 2 1 1 2 OFERATION ORDER 13 13 13 13 13 11 FRAG ORDER CALL FOR FIRE POSITION/NAVIGATION SPOT REPORT : 3 : 3 : 1 : 3 . 2 : 3 ; 3 3 1 2 1 3 1 1 3 SITUATION REPORTS (FRIENDLY/ENEMY) CONTACT REPORT ; 3 ; 3 ; 2 ; 1 ; 3 ; 3 MINEFIELD REPORT : 3 PATROL REPORT OBSTACLE REPORT BRIDGE REPORT SENSITIVE ITEM REPORT ; 3 MIJI REPORT LOGISTIC REPORTS : 3 EQUIPMENT STATUS REPORT . 3

HARDWARE SOLUTION: HTT

NEC 1/4 NEC 2/3/5

SHELL REPORT INTELLIGENCE REPORT PERSONNEL DAILY SUMMARY

EFFECTIVE DOWN WIND MESSAGE

TYPE UNIT: MTZ/MECH (M113)

RATING SCALE:

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3 : 3

2 . 2

ZOLTUBERTROD OZ - I

- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

ECHELON: BN OFERATOR: S3 SEC, S1/S4, S2 TYPE UNIT: MTZ/MECH/BRADLEY

HIGH PAYOFF TASKS TO BE AUTOMATED			HARD	WARE OF	PERATIO	NAL CAP	ABILITY	· · · · · · · · · · · · · · · · · · ·			•••••			
	;		DEV	ITEN										;
	!		PCU	(V1/V2)	OR 7	CU (V1/)	V2)				;			,
	;		нти						i i		;			;
	OPER ON MOVE		OPN GRAP		TEXT	:VISUAL		DATA	DIGITAL MAP BACKGRD	NAV	: TGT	BTLFLD SENSOR INPUT	TOH SEN FREE DEW GRAPHICS	PROC
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FRAG ORDER	٠ ٦		. 3	, 1	1 4	, 3	1 1	1.3	. 3	1 9	1 1			1 1
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POSITION/NAVIGATION	: 3	. 3	: 1	: 1	: 1	: 1	; 3	; 3	: 3	: 3	: 1		1 1	1 1
SPOT REPORT	: 3	. 3	: 1	. 3	: 2	; 3	1.1	; 3	1 1	: 3			3	
SITUATION REPORTS (FRIENDLY/ENEMY)	; 3	: 3	2	; 3	1 1	; 3	1 1	; 3	1 1	1	1 2	, 1	1 1	1
CONTACT REPORT	; 3	: 3	: 1	: 3	: 3	; 3	1.1	3	1 1	, 3	1 1		3	1.1
MINEFIELD REPORT	: 3	: 3	: 2	1 1	3	: 3	; 2	3	1	: 3	1 1		; ;	: 1
PATROL REPORT	: 1	1 1	; 1	: 1	1 1	1 1	1 1	1 1	1	1 1	1 1		: :	: :
OBSTACLE REPORT	: 1	: 1	1 1	1	: 1	: 1	; ;	1 1	: 1	1	: :	•	: :	1.1
BRIDGE REPORT	1.1	: 1	: 1	: 1	; 1	: 1	1.1	1 1	1 1	. 1	; :	. :		1
SENSITIVE ITEM REPORT	: 3	: 3	1 1	: 3	; 2	: 2	1 1	. 3	: 1	1 1	:	i •	:	: :
MIJI REPORT	: 3	: 3	: 1	: 3	: 2	, 2	1	; 3	1	: 1	• :			: 1
LOGISTIC REFORTS	1 3	: 3	: 1	; 3	: 1	: 2	2	: 3	•	; ;	: :			. :
EQUIPMENT STATUS REPORT	: 3	; 3	: 1	; 3	1.1	1 1	: 2	; 3	•	1 1	1.1		:	. :
NBC 1/4	: 3	: 3	: 3	: 3	, 1	: 3	: 3	; 3		- 3				•
NBC 2/3/5	: 3	3	. 3	; 3	1.1	; 3	. 3	. 3	1	. 3	: :		:	
EFFECTIVE DOWN WIND MESSAGE	: 2	: 2	: :	: 2	1 1	' 2	2	: 3	:		: :	• :		:
SHELL REPORT	: 1	: 1	: 1	1 1	;]	1 1		ì	1 1	:		:	:	
INTELLIGENCE REPORT	: 1	: 1	: 1	1 1		: 1	1 1	. :	:	•	:		•	:
PERSONNEL DAILY SUMMARY	: 3	. 3	1 1	3	1.1	1 1	: 3	3			:	:	•	:

HARDWARE SOLUTION: FCU(V2)

RATING SCALE:

- I NO CONTRIBUTION
- 0 MODERATE CONTRIBUTION 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: MTZ/MECH (M113) ECHELON: CO OPERATOR: CDR/XO/1SG HIGH PAYOFF TASKS TO BE AUTOMATED : HARDWARE OPERATIONAL CAPABILITY DEV ITEM : PCU (V1/V2) OR TCU (V1/V2) OPER CACT COPN CEMT CERE AUDIO/ CPHO- STORE CDIGITAL FOS/ AUTO BELFED COE SEN CEPROCE TON ODES GRAP TEXT TEXT VISUAL CESS DATA WAP ONAV TOT SENSOR FREE DRW DATA: *MOVE :PLAY :HICS :MSG : MSG :ALERT :DATA : : BACKGRD DATA :ACQ :INFUT :GRAPHICS :EUS : WARNING ORDER : 3 OPERATION ORDER : 3 FRAG ORDER 3 : 3 : CALL FOR FIRE . 3 : 3 POSITION/NAVIGATION SPOT REPORT : 3 SITUATION REPORT (FRIENDLY/ENEMY) : 3 : 3 CONTACT REPORT MINEFIELD REPORT PATROL REPORT OBSTACLE REPORT BRIDGE REPORT SENSITIVE ITEM REPORT : 3 MICH REPORT : 3 LOGISTIC REPORTS EQUIPMENT STATUS REPORT NBC 1/4 NBC 2/3/5 13 : 3 : 3 : 3 : 1 : 3 1 2 1 2 1 1 2 1 1 2 2 3 EFFECTIVE DOWNWIND MESSAGE SHELL REPORT

HARIWARE SOLUTION: HTU

INTELLIGENCE SUMMARY
PERSONNEL DAILY SUMMARY

RATING SCALE:

- 1 NO CONTRIBUTION
- 3 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

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CANDIDATE SOLUTIONS

TYPE UNIT: MTZ/MECH (M113) ECHELON: PLT OPERATOR: SOT PLT LDR AND PLT SGT HARDWARE OPERATIONAL CAPABILITY HIGH PAYOFF TASKS TO BE AUTOMATED PCU (V1/V2) OR TCU (V1/V2) TOPER FACT FORM FEMT FEREE FAUDIO/ FPRO- STORE DIGITAL FOS/ FAUTO ETUFLD TOH SEN FPROCE TON DIST GRAP STENT STENT VISUAL SCESS DATA MAP NAV TOT SENSOR FREE DEW DATA. GRAPHICS CHIRAL TIMES (STANDER CHIRAL) DATA () BACKGRI STAND STAND STAND STAND STAND STANDER FROM STANDER STA FIRE SUPPORT PLANNING ELEMENTS ALERTS (NBC, FAAD, RECON STATUS) 3 | 3 | 3 | 3 | 3 | 2 | 1 | 3 | 1 | 1 : 3 : 3 : 3 : 1 : XBC [13 13 11 13 12 13 13 13 1 NBC 3 : 3 : 3 NEC 4 : 2 : 1 : 3 : 2 : 3 ; 3 ; 1 XBC 5 EFFECTIVE DOWNWIND MESSAGE : 3 DOSIMETRY REPORT STRIKEWARN : 3 : 1 : 1 CHEMWARN : 3 SHELL/MORT/BOMREP ; 2 2 : 3 : 1 : 3 SPOT REPORT : 3 1 2 : 2 : 1 : 3 : 1 : 1 : 1 : 3 : 1 SITUATION REPORT CONTACT REPORT

HARDWARE SOLUTION: HTU

RATING SCALE:

- 1 NO CONTRIBUTION
- 0 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: MTZ/MECH (BRACLEY) ECHELON: BN OPERATOR: BN ODR, S3 OFFICER

HIGH PAYOFF TASKS TO BE AUTOMATED			HARD	WARE 0	PERATIO	ONAL CAPA	ABILIT	i						
	;		DEV	ITEM		• • • • • • • •			*******					
	1		PCU	(V1/V2)	07.	CU :VI/								
	:	•••••	HTU			• • • • • • • • • • • • • • • • • • • •			-! !					;
		DIS-	OPN GRAP		TEXT	AUDIO/ :VISUAL :ALERT		DATA	DIGITAL MAP BACKGRD	NAV	TGT	SENSOR	TCH SEN FREE DRW GRAPHICS	
WARNING ORDER	1 1	; 3	: 3	;	2	. 3	: 1	. 3		2			: 1	
OPERATION ORDER	; 1	3	. 3	3	: 2	3		3	:	. 2				
FRAG ORDER	; Ī	: 3	. 3	: 3	: 2	. 3		. 3		, 2		:	1	
CALL FOR FIRE	: 1	; 3	; 1	. 3	. 3	. 3	. 3	. 3		3	. 1			
POSITION/NAVIGATION	1	; 3	1	,	: 1	. 1	: 3	; 3		. 3				: 1 .
SPOT REPORT	1 1	: 3		: 3	. 2	: 3	1 1	3	:	3				
SITUATION REPORTS (FRIENDLY/ENEMY)	1	: 3	2	. 3	1	. 3	11	; 3		:	. :		. 1	
CONTACT REPORT	1	3	; 1	: 3	: 3	; 3		; 3		3		:		1
MINEFIELD REPORT		; 3	2	1	: 3	: 3	1 2	. 3		1		:		
PATROL REPORT	. 1	: :					. 1						•	
DBSTACLE REPORT		: 1	1		11		; !							
PRIDGE REPORT		1					:			-				
SENSITIVE ITEM REPORT	ī	: 3		. 3	1 2	2	1	3						
VIJI REPORT		. 3		. 3	2	2		3	•					:
LOGISTIC REPORTS		; 3	1 1	: 3		. 2		3						
EQUIPMENT STATE REPORT		3	1	3		2 : 3		3					•	
X20 1/4	. 1	: 3	. 3	; 3		3	3	3		3				
XBC 2/3/5	: :	3	: 3	; 3	. 1	. 3	3	3		3				. :
EFFECTIVE DOWN WIND MESSAGE	. 2	2	1 1	. 2	: :	; 2	3	3			1			:
SHELL REPORT	: :	; ;		1	: 1	1 1								:
INTELLIGENCE REPORT	1	:	1 1	. 1										
PERSONNEL DAILY SUMMARY		: 3	. 1	. 3	: :	:	3	3						

HARDWARE SOLUTION: DEV ITEM

RATING SCALE:

- ZOTTERRIZOS OZ 1
- D MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

OPERATOR: CO CDR/MO/ISG

CANDIDATE SOLUTIONS ECHELON: CO

HIGH PAYOFF TASKS TO BE AUTOMATED	;		HARD	VARE 0	ERATI(NAL CAP	ABILITY	<i>!</i>						
	1		DEV :	TEM				· • • • • • • • • • • • • • • • • • • •						
			PCU	(V1/V2)	02.	CO INIV	72)	• • • • • • •						
	;		HTU											
	OPER ON MOVE		OPN GRAP	FMT FEXT	TEXT	AUDIO/ VISUAL ALERT		DATA	DIGITAL MAF BACKGRD	SAV	IGT	BTLFLL SENSOR INPUT	TOB SEX FREE DRW GRAFEICS	PROC -DATA BUS
WARNING ORDER		· •	;	:	;	: 3	•	: • 3	,		; ·		7	
GPERATION ORDER			. 3	: 3	, 6		. :	. 3	•	9	•	,	3	•
FRAG ORDER	, 3	, 1		. 7	, 1		. 1	; ;	. 3	. 9			. ;	•
CALL FOR FIRE	, ,			1 3			. 1	3	. 3		· •			•
POSITION/NAVIGATION		, ,	1 1	, ,	. 1			. 3	. 3	. j	. :			, .
SPOT REFORM	, ,			7		7	, ,	. J				•	7	,
SITUATION REPORTS (FRIENDLY/ENEMY)				, 7		. 3	. 1		:		•	•	. 3	:
CONTACT REPORTS (FRIENDER/EMEMI)	. 3				7		•	ن ت			•		• •	•
MINEFIELD REPORT	. 3		, v	1		. 1	ì	7		٠ ٠	:	:	· 3	
PATROL REPORT	. J								•		•	:	3	•
OBSTACLE REPORT			1 1	1 1		, ,	1 1		•	•	. :		7	
BRIDGE REPORT		. ,			. 1				•	:	•	•	ن	, 1
SENSITIVE ITEM REPORT		2	. 1	1	. 0								•	•
MICI REPORT	. J	, 3	•	7				3	•	•	•	•	•	•
LOGISTIC REPORTS		, 7					2	7	•	. :	•			•
EQUIPMENT STATUS REPORT	3		. 1	. 3				7	•	•	•	•	•	•
NEC 1'4	. 3	J					. 3	3		•	•		•	•
X3C 2/3/6	. 7	. 3	. 3	3			. 3		:	3	•	•	•	•
	. 3			, ,			. 3	: 3	•	ა	•	•	•	:
EFFECTIVE DOWN WIND MESSAGE	: 2	2		; 2		2	1 2	-		•	•	•	•	-
SHILL REPORT		•		1				•	•	•		•	•	:
INTELLIGENCE REPORT					•	•			-	•	-	•	•	•
PERSONNEL DAILY SIMMARY	3	3		3			7	3				•	-	-

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HARDWARE SOLUTION: DEV ITEM

TYPE UNIT: MTZ/MECH (BRADLEY)

BATING BOALE:

- 1 NO CONTROBUTION 2 MODERATE CONTROBUTION 3 ESSENTIAL CONTROBUTION

		IDE	ENTIFI(MOITA	OF HAR	DWARE R	EQUIRE	VEXTS						
			C	ANDIDAT	e solu	TIONS								
TYPE UNIT: MTZ/MECH (BRADLEY)				ECHEL)N: Pl	T			OPERATO)R:	CT PLI	LDR AND	PLT SGT	
					 .									
HIGH PAYOFF TASKS TO BE AUTOMATED	!		HARDV	VARE OF	ERATIO	NAL CAP	ABILITY	Ϋ́						
	;		DEV	meu			• • • • • • •							
	!		JEV .	LLEM										
	1		PCU	(V1/V2)	OR T	Cu (VI/)	<i>1</i> 2)				i			
	;								i		:			
	:		HTU						;		:			
	OPER	: ACT	OPN	FMT	FREE	:AUDIO/	:P30-	STORE	DIGITAL	.POS/	AUTO	BTLFLD	TOH SEN	: 230
	ON	:DIS-	GRAP	TEXT	TEXT	VISUAL	CESS	DATA	MAP	NAV	TGT	SENSOR	FREE DRW	JAT.
	MOVE	PLAY	HICS	MSG	MSG	ALERT	DATA	:	EACKGRD	DATA	ACQ	. INPUT	GRAPHICS	BUS
FIRE SUPPORT PLANNING ELEMENTS	: : 3	; · 7	: 1	;	; 2	: 3	1 1	: 3	; ; 3	; : 1	. 1		· •	1 1
ALERTS (NBC, FAAD, RECON STATUS)	: 3	3	: 3	. 3	: 2	: 3		: 3	3	: 3	. 1	1 1	. 3	: 1_
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NBC 4	, 7	. ,		, ,	, ,	, ,	1 1	, 7	, ,	, ,	1 3	1 1		1 1
NEC 5	, 7		, ,		1 2	. 2	, 1	. 3	. 1	. 1	1 1		1	
EFFECTIVE DOWNWIND MESSAGE	: 3	, 3	, 1	1 7		: 3	: :	: 3	, ,		1 1			. 1
	i ü	: 3	1 1	, 3	, 0	1 7	: 1	. 7			1 1	1 1		
DOSIMETRY REPORT		1 2			1 4	. 3	1 1	. 3				•	•	
STRIKEWARN	: 3	2	1 3	3	; 2	. 3		3	3	. 5	, 1			
CHEMWARN	: 1	2	; 3	. 3	i 1	<u> </u>		. •			•			•
	: 3	: 2	: 2	; 3	1 1	: 3	: 2	: 3	. 2	. 3		:		•
SHELL/MORT/BOMREP														
SHELL/MORT/BOMREP SPOT REPORT SITUATION REPORT	: 3	2	: 2	; 3	1 1	: 3	- 2	: 3	: 2	3		: 1		: 1

HARDWARE SOUTTION: DEV ITEM

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: MTZ/MECH (BRADLEY)			U.	ECHEL(e sobi Di: Pi				OPERATO	a: E	PLT LDE	R. PLT SO	T	
HIGH PAYOFF TASKS TO BE AUTOMATED	;	•	HARD	WARE O	PERATIO	NAL CAP	ABILIT	Y	•••••			• • • • • • • • • • • • • • • • • • • •		
	;		DEV	ITEM		••••••								
	;		PCU	(V1/V2	OR	CC (A1\)	V 2)	•••••			:			
			HTU			•••••			:		i			i
	OPER ON MOVE	IDIS-	OPN GRAP	FYT TEXT	TEXT	AUDIO/ VISUAL		DATA	DIGITAL MAP BACKGRD	:POS/ NAV DATA	AUTO TGT ACQ	SENSOR	TCH SEN FREE DRW GRAPHICS	PROC DATA BUS
WARNING ORDER	1 3	: 3	: 3	1 3	: 2	: 3	1	1 3		: 7			ै : द	: :
FRAG ORDER	: 3	: 3	: 3	: 3	: 2	3	: :	: 3	. 3	. 3	: :	1	. 3	
CALL FOR FIRE	; 3	; 3	; ;	.; 3	; 2	: 3	: 3	3	: 2	. 3	•	1 1		. 1
POSITION/NAVIGATION	; 3	: 3	1 1	1	1 1		. 3	3	: 3	: 3	:		1	: 1
SPCT REPORT	; 3	; 2	; 1	: 3	: 2	: 3	1 1	: 3	: 3	, 3		1		
SITUATION REPORT (FRIENDLY/ENEMY)	- 3	: 3	1	; 3	. 2	; 2	: :	; 3	:		: :			; 1
CONTACT REPORT	: 3	: 3		; 3	: 3	. 3		3	3	3	. :			
MINEFIELD REPORT	; 1	. 2	. 3	: 3	. 2	. 3	; ;	3	3	. 3	:	•	•	
PATROL REPORT	: 3	. 2	. 3	. 3	1.2	. 3	1.1	: 3	٠ 3	. 3				. :
GESTACLE REPORT	; 1	- 2	. 3	, 3	: :		1.1	: 3	•		•	•		
WBC 1/4	3	. 2	: 2	3	: 1	. 3	: 2	· 3	. 2	3	:	:	•	. :
NBC 2/3/5	: 3	. 2	; 2	: 3	1 1	: 3	. 2	: 3	2	. 3			•	. :
EQUIPMENT STATUS REPORT	. 2	: 2	; !	: 3	: :	1 1	3 4	: 3	•	. :	:		1	:
PERSONNEL DAILY SUMMARY	. 2	: 3	. 1	. 3	: 1	, ,	. 3	. 3			. :	:	:	. 1

HARIWARE SOLUTION: DEV ITEM

RATING SCALE:

- 1 NO CONTRIBUTION 2 MOIERATE CONTRIBUTION 3 - ESSENTIAL CONTRIBUTION

SECTION III. OPERATIONAL BENEFITS

OPERATIONAL BENEFITS INFANTRY UNITS

1. Bn Cdr (LT, Abn, AA, In, MTZ, Mll3, BFV) - Handheld Terminal Unit (HTU):

The Battalion Commander requires the capability to rapidly input and acquire tactical information from the Force Level Commander's Situation Report and the Force Level Data Base of the objective automated command and control system. In order to determine appropriate actions and direct the activities of subordinates, the commander must have the capability to access and/or to update and transmit formatted reports, messages, and graphics containing critical information. He requires this capability while not being tied to one location or operational facility.

2. Bn S3 Section (Lt, Abn, AA, In, MTZ, M113, BFV) - Portable Computer Unit (PCU) V2:

The Battalion S3 Section requires the capability to rapidly acquire and disseminate tactical information and to plan tactical operations. The Battalion S3 Section correlates, filters, processes, extracts, and formats operational information for the battalion and disseminates that information horizontally and vertically on the battlefield. The PCU will automate these functions, along with the functions of coordination of plans and guidance and the monitoring of operations. The PCU will assist the battalion staff by providing adequate memory capacity (1-10 Megabytes) and input/output channels for use in responding to critical information requirements of the Commander to include: Friendly Locations; Enemy Locations; Fire Support Plans; Intelligence Information; Air Defense Plans; Combat Support; Combat Service Support; NBC, Engineer Plans, and Aviation and Air Support.

3. S3 Officer (Lt, Abn, AA, In, MTZ, Mll3, BFV) - Handheld Terminal Unit (HTU):

The S3 Officer's HTU is needed to support the TAC CP when the Battalion Commander is not there with his HTU. Also, the S3 Officer's HTU will be used to automate the functions of coordination of plans and guidance, and the monitoring of operations. The HTU will assist the Battalion S3 Officer by providing 512 Kilobytes of memory and the capability to access and/or update the database of the PCU located at the Main CP.

4. Bn S2 (Lt, Abn, AA, In, MTZ, Mll3, BFV) - Portable Computer Unit (PCU):

The Battalion S2 requires the capability to rapidly acquire and disseminate intelligence information critical to successful execution of operations. The S2 must provide the Commander a realistic and complete picture of the battlefield. The PCU will

give the section the capability to access, update, and disseminate formatted reports, operational graphics, and intelligence overlays for the situation map maintained n the Force Level Data Base. The S2 must be able to view the Intelligence Summary, Appraisal Worksheet, and the Appraisal Map and to update the information contained in these documents relative to the battalion area of concern and area of influence. The S-2 will not be able to satellite off of the PCU in the S3 Section because of the amount of computer access time needed by both sections.

5. Sl/S4 in the Combat Trains (MTZ, M113, BFV) - Portable Computer Unit (PCU):

The S1/S4 in the Combat Trains must provide the Battalion Commander up-to-date status of equipment and personnel resources. The PCU will assist these sections by automating the function of tracking classes of supply, personnel resources and/or a specific item of interest for the Commander. Additionally, the PCU will allow the S1/S4 to access and/or update the database maintained at the Brigade S1/S4. The PCU will allow display of either a detailed friendly forces status chart or a unit summary. The PCU will provide the necessary memory size required to support the S1/S4 requirements. A PCU will also provide the necessary capability to enable the Combat Trains to serve as the alternate main CP.

CHARLES MILLER LINGS OF THE SERVICE SE

6. Sl/S4 in the Combat Trains (Lt, Abn, AA, IN) - Handheld Terminal Unit (HTU):

An HTU is required because of weight, size, and cube considerations in Light Infantry Units. The memory capacity of an HTU should be sufficient for Sl/S4 requirements of Light Forces.

7. HHC Cdr (Lt, Abn, AA, In, MTZ, Mll3, BFV) - Handheld Terminal Unit (HTU):

The HHC Cdr is provided an HTU to allow elements of the battalion located in the Field trains, access to the Force Level Data Base for tactical and operational information. Also, an HTU will allow the Battalion Commander, the TAC CP, Main CP, and Combat Trains to have a direct automated capability to pass and receive displayed graphic information, orders, reports, and messages to and from elements in the Field Trains.

8. Co Cdr (Lt, Abn, AA, In, MTZ, Mll3, BFV) - Handheld Terminal (HTU):

The Company Commander requires the capability to rapidly acquire or input information from the Force Level Data Base. In order to determine appropriate actions and direct the activities of his

subordinates, the Company Commander must access and/or update and transmit formatted reports, messages, and graphics of critical information. Also, an HTU will provide the Company Commander a direct automated capability to receive and send displayed graphic information from the Battalion Commander and the Battalion S3 Officer.

9. Platoon Ldr (MTZ, Mll3, BFV) - Handheld Terminal Unit (HTU):

An HTU automation device is provided to the Platoon Leader to increase the speed by which operational, logistical, and personnel reports are generated. Also, if a BFV Platoon is task organized with an Armor Company, enhanced C2 is maintained by providing the Platoon an automation device just as the Armor Company Commander and other Platoon Leaders.

10. Scout Plt Ldr (MTZ, Mll3, BFV) - Handheld Terminal Unit (HTU):

The scout platoon leader in all infantry units should be equipped with an HTU. Scouts are the eyes and ears of the battalion. When properly employed, they will generate information of a critical nature for the battalion. The availability of an HTU will provide a means to display what they are finding/seeing and of receiving changes to their missions based on the situation as it is unfolding. They will be busy and in many fast-moving situations, but their value to the Commander S2 and S3 will be greatly enhanced if they are in the automated system. This will be particularly true in nonmechanized units where the scouts (except for the Lt Inf Bn of the Lt Div) have organic mobility and the maneuver companies are foot mobile, once deployed.

SECTION IV. OPERATIONAL BURDENS

OPERATIONAL BURDENS LT/ABN/AASLT/INF

Identify the operational burdens associated with fulfilling the requirement, all or in part.

a. Transportability: There is no apparent problem with the HTU itself or its portability. However, the need for and use of peripherals (a printer, for example) by staff elements does present a problem in that the host vehicles may not allow room for the system. Additional vehicles or major modification to existing vehicles may be required.

b. Training:

AND THE RESIDENCE OF THE PROPERTY OF THE PROPE

- (1) POTS would be changed in the following USAIS courses to teach operation and operator maintenance of the system; Precommand, IOAC, IOBC, and ANCOC.
- (2) New equipment training (NET) will have to be conducted.
- (3) Units must develop a training program to ensure adequate personnel are trained to operate and maintain the equipment for combat sustainment.
- c. Maintenance: Because of the sensitivity of the system and skilled personnel required to maintain it, units will have to carry a stock of replacement systems or simple plug-in replacement parts for those that require maintenance to ensure combat sustainment.
- d. Manpower: May require additional manpower for maintenance, added vehicles or continuous monitoring, receipt of messages, and retrieval of information in the staff sections where peripherals are used and receive, reconfigure/consolidate, and send requirements exist.

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- e. Resource Impact: Until the precise task steps and elements to operate the equipment can be identified, definitive resource requirements cannot be identified. However, if use requires specialized training there will be resource impacts for institutional training because of expanded POIs, instructors/support personnel, equipment, and facility requirements.
- f. Operating Impact: The use of digital traffic may necessitate the addition of radios and frequencies to users for the establishment of a separate digital net or the use of packet radio technology that will enable FM radios to pass both analog and digital traffic simultaneously.

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OPERATIONAL BURDENS MTZ/MECH

Identify the operational burdens associated with fulfilling the requirement, all or in part.

a. Transportability:

- (1) For those vehicles where no peripherals (such as a printer) are required, organic vehicles may not provide adequate space for the system and still perform its assigned role without some internal reconfiguration.
- (2) For staff use where peripherals would be required, additional vehicles or major modifications to existing vehicles may be required.

b. Training:

AN WARREST BESTELDE WESTLING BESTELDE WESTELDE KOSSISSE WISSESSE MINIOTER BESTELDE MODIFIED DE LA COSSISSE MINIOTER MODIFIED DE LA COSSISSE MODIFIED DE LA COSSISSE DEL COSSISSE DE LA COSSISSE DEL COSSISSE DE LA COSSISSE DEL COSSISSE DE LA COSSISSE DEL COSSISSE DE LA COSSISSE

- (1) POIs would be changed in the following USAIS courses to teach operation and operator maintenance of the system; Precommand, IOAC, IOBC, and ANCOC.
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- e. Resource Impact: Until the precise task steps and elements to operate the equipment can be identified, definitive resource requirements cannot be identified. However, if use requires specialized training there will be resource impacts for institutional training because of expanded POIs, instructors/support personnel, equipment, and facility requirements.

SECTION V. MFA MAA CORRECTIVE ACTION SUMMARY

MFA MAA CORRECTIVE ACTION SUMMARY

BDP DEF (1986)

SECTION VI. USER INTERFACE REQUIREMENTS

		INFORMAT	FION EXCHANGE			
		INTERFACE NAME:	MC2 - C22C2			
SYSTEM 1		SYSTEM 2		INTERFACE IOC: FY 20		
IOC: FY 90	TYPE	IOC FY 90	TYPE	SOURCE OF INTERFACE		
OPFAC: CET TRAINS		OPFAC: FSB		APPROVAL: MCS 0 % 0	PLAN	
FORCE LEVEL:		FORCE LEVEL:				
CORPS, DIV, BDE, BN						
	' MSG : 24 HR	VOL : INIT	: RECEPTION :	TRAFFIC ANALYSIS	CHARACTERS	
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SESSESSE FORESCORE PROGRESS NATIONAL MANAGES BOSSESSE BOSSESSE

INFORMATION EXCHANGE

PROCESSOR STANDARD ST

INTERFACE NAME: MCS - ASAS

SYSTEM 1

SYSTEM 2

INTERFACE IOC: FY

IOC: FY 90

TYPE IOC FY

OPFAC: MAIN CP

TYPE SOURCE OF INTERFACE

OPFAC: DIV MAIN/TAC CP APPROVAL: MCS 0 & 0 PLAN

FORCE LEVEL:

FORCE LEVEL:

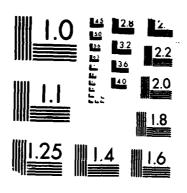
CORPS, DIV, BDE, BN

CORPS,DIV,BDE,BN

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NO CONTROL OF THE PROPERTY OF

ANALYSIS OF TACTICAL AUTOMATION REQUIREMENTS FOR THE MANEUVER FUNCTIONAL AREA(U) ARMY COMBINED ARMS COMBAT DEVELOPMENT ACTIVITY FORT LEAVENMOR. L J DACUNTO F/G 12/7 MD-8191 646 2/4 UNCLASSIFIED NL



MICROCOPY RESOLUTION TEST CHART IREAL . . . STANDARDS 1963 A

SECTION VII. QUANTITY/DISTRIBUTION OF DEVICES

	LEVEL		TAA 92; COMPO ; 1-AA ; 2-NG ;	HHT		PCU	:		cu	; ; ;	DEV	ITEM:	DESIGNATED
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		GRAND TOTALS:					4		3		5						3	

QUANTITY DISTRIBUTION OF DEVICES

TOE	LEVEL	TYPE OF UNIT	: C	AA 9: OMPO -AA -NG	i	HET	;		PCU	;	1		TCU				ITEM	DESIGNATED
	•	•		-AR	:			(♥]	.)	(V:	;} :	(V)	() ;	: V2	;) :	•	:	USER :
		†	<u>-</u>				 -		·		:						4	
373153	. 3%	HHC, MIN BN	:	0	;	9(01:	0 (0):	3;	31:	0,	9)	91	();	3 (0;.	HTU - BN CDR,
07315J			;	1	÷	3 (3):	0 (0):		0);		01:		0),			SCT PLT LDR & SGT
07315J		t	,	0	:	0(0):	0 (0):	01	0):					0:		FCU - S3 SEC, S2, S1/4
07315J		: RIFLE CO	;	Ç		0(0):	9(0;:	0;	ĵ):	01	C:) ();.	0:	0):	HTU - CO CER
97315J	:		;	3	1	1(3)	0 (9)	0(01	0)	0(97.	0;		
07315J				0		01	0)'	0;	J:.	0:		01		0:	9:	0 ((₀)	
		•	;		;		;				:							
373153		CSC, MIN BN		C	:	01	01	0 (011	0:	0):	0 (€11	91	٥٠	9.	0)	
073150			:	:		1;	11.	0 (0;;);	01	01	3)	0:):	0 (G:	HTU - CO CDR
073150	•			0		0;	0):	0 (01;	0:	C).	0 :	0::	0 (٥٠.	0 (01.	
		STBTOTALS:																
				:			0		0		3		ŋ		0		9	
				2			7)		0		٥		î		ŷ	
				3			0		0		Ĵ		Ç		9		ŷ.	
		GRAND TOTALS:					~		j		3		3				j	

BANKA BANKALA INTERNA DISTRICT REPORTED BANKALA BANKALA DISTRICTURA DESTRUCTOR BANKALA BANKALA BANKALA

QUANTITY DISTRIBUTION OF DEVICES

TOE	LEVEL	TYPE OF UNIT		; : HE	; ;		PCI		;		70"			DEV	ITEM:	DESIGNATED
	:	· ·	: 2-NG : 3-AR	:	; •	(V1) ;	(V2) :	 ₹ 7 1) ;	(V2) :		;	USER
		;	1				- -		 -				+		·÷	
020950	VIC	HHC. CAB (L)	. 2	. 10	2):	0 (0);	3(6);	01	01.	0 (01:	0 (0).	HTU - BN 003
020950			: 0	: 0	0);	0 (0).	0 (0).	Û (0).	0 (Û)	0ι	9;	
020950	:	:	; 0	; 0	0):	0 (0):	0 (0):	0(0):	0:	0;	0:	υ;·	POU - 83 SEC.82,81/4
02095D		ASSAULT GUN CO	2	: ::	2);	0;	0):	0 {	0):	0 (); ();	0 (0);	0 (0:	HTU - CO CDR
020950	1	:	: 0	; 0	0):	0(0):	0 (0):	0 :	$\mathfrak{J}_{\mathbb{F}}$.	01	0),	0ι	0):	
020950	•	1	. 0	1 0	0) 1	0 (0);	û(0):	0 (ΰ);	9(31;	3(0::	
020950	i	: RIFLE CO		: 1	: : 43 :	0 (011	0 (0):	31	0);	0 (G) :	2() (1)	: HTU - CS GIR
010950		AIPE CO	: 0	: 0		01	0);	0(0):	0(9).	0:	0);		0,	
020952	,	4	: 0	. 0		01	0;;	0 (0).		0).	0(Ú1.		0)	
020302			;	:	:	31	:	U i	:	91		• (• (٠,	
020950		CSC	. 2	1 1	(2):	0 (0):	Üţ	0):	0 (0):	01	01.	0(3)	· HTU - 00 00R
020950		1	: 0	; 0	(0):	0 (0):	Û;	0):	0 (0):	0 :	Q),	0;	0:	1
020950			; 0	: 0	(0).	0 (0):	0 (0):	0 (0):	31	0):	Cí	0;	4 1
	í	;	:	;	1				;							
900950		. PLT. CSC	: 2	1 2	(4):	0 (0):	0 (0):	0 (0:	0;	01,	ij.	. 0:	: HTU - SCT PLT LDR
020950		1	; 9.	: 0	(0).	01	01:	0:	0):	0 (0;	01	0;	.){	C :	· & FLT SGT
COUGED		•	: 0	: 0	(0):	01	0).	0 :	0):	0.	Ü)	Ĵ (3:	31	0.	!
		SUBTOTALS:														
			:		14		0		5		ð)		0	
			2		Ċ		0		Û		ij		9		Û	
			3		0		0		0		Ĵ)		•)	
		GRAND TOTALS:			14		0		5		Ü		Ç		;	

QUANTITY/PISTRIBUTION OF DEVICES

TOE	: LEVEL	; TYPE OF UNIT		PO ;	HE	:		FCT	;	:		TCU	;		DEV	ITEM.	PESIGNATED
	:		: 2-N							2)				-		;	TSER
		:	;	:		,				;-						••••	
071158	CORFS	HHC, TLAT		0	0 (0)	ŷ:	0).	14	ġr:	J.(9, .		9,	<u>)</u> ,	5.	HTC - EN 01B
97115H			:	4 ,	1(4;;	0 (0);	3 (12)	0 (G),	Ģ (0)	3 (POU - 83 SEC,82,81/4
07115H		•	;	0 :	0 (0);	0 (0) -	0(0):	9(01:	0 (0).	0 (0;	
		1	;	:		:		;		£							
07115H		: AA CO, TLAT	;	0 :	0 (0):	0 (0);	01	0):	0 (0:	0:	0;.	Ó(0;	HT9 - 00 00B
07115E			: 2	0 .	1(2011	0 (9):	0() };	9 (0;.	91	0):	0(3):	
07115H			;	0 :	0 (0):	0 ;	0;:	0 (0;.				0)	0:	0.1	
		SUBTOTALS:															
			1			0		0		0		3		0		÷	
			2			24		C		10		2		Ţ,		(
			3			0		0		0		0)		Ŋ	
		GRAND TOTALS:				24		0		2		0		0		3	

QUANTITY/DISTRIBUTION OF LEVICES

TOE	: LEVEL	TYPE OF UNIT	; c	AA 9 OMPO -AA	:	HHT	; ;		PC	J	;		TCU			DEV	ITEM.	DESIGNATED
		1		-NG -AR			;	(7)	.) ;	(V2	!) :			(V2) :		:	USER
		†							:									
072158	: BDE	t HHC. PII	:	:	1	11	1):	0(ð): 1	31	3; '	0:	0):	0.1	0):	0:	0;	HTU - BN COB
07215J	1	*	:	0	,	0 (01:	0 (0).	0 (9):	Ű;	0:	Û(01:	0 t	Ú),	FCU - 83 SEC, 82,81/4
07215J	1		;	C	;	0 (0;,	0 (0;;	0 (0),	0 (0):	0 (0).	0 (01:	
		•			1		:		;				;		,		;	
07215J	1	: RIFLE CO, PII	1	3	1	: (3):	0 (0):	0 (0):	0 (0)	0 (0):	9 (0;'	HTU - CO COR
07215J	1	:		0	1	0 (0);	0 (0;	0 (0;;	0 (0):	0,	9),	94	0;,	
07215J	1	1	i	0	;	0 (0),	91	9):	0 (0)	0 (0)	0 t	0;;	0;	0;	
		SUBTOTALS:																
				1			4		0		3		0		0		ũ	
				2			0		ė		0		0		Û		Ü	
				3			0		0		0		0		0		Ċ	
		GRAND TOTALS:					4		0		3		ĵ		0		0	

APPENDIX H

ARMOR SCHOOL STUDY DELIVERABLES

SECTION I. TASK/FUNCTIONS TO BE AUTOMATED

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: ARMOR AND CAV UNITS ECHELON: BN

PRIORITY	TASK/FUNCTION	FORCE	LEVEL	MFA	UNIQUE
1	POSITION/NAVIGATION		X		
2	SYSTEMS INTERFACES		X		
3	GRAPHICS		X		
4	REQUEST/ADJUST FS (CALL FOR FIRE)				
5	FIRE SUPPORT PLANNING ELEMENTS		X		
6	ALERTS (NBC.FAAD.RECON STATUS)		X		
7	NBC 1		X		
3	SYSTEMS INTERFACES GRAPHICS REQUEST/ADJUST FS (CALL FOR FIRE) FIRE SUPPORT PLANNING ELEMENTS ALERTS (NBC, FAAD, RECON STATUS) NBC 1 NBC 3 NBC 4		Х		
9	NBC 4		Х		
10	NBC 5		Х		
11	EFFECTIVE DOWNWIND MESSAGE		Х		
	DOSIMETRY REPORT		Х		
13	STRIKEWARN		X		
14	CHEMWARN		Х		
15	SHELL/MORT/BOMREP		Х		
15	SPOT REPORT		Х		
	SITUATION REPORT	•	X		
18	CONTACT REPORT		X		
19	BRIDGE REPORT		Х		
20	MINEFIELD REPORT		Х		
21	OBSTACLE REPORT		Х		
22	ROUTE RECON REPORT				Х
23	AMMO STATUS REPORT		X		
24	POL STATUS REPORT		X		
	AMMO REQUEST		X		
	POL REQUEST		X		
07	EQUIPMENT STATUS REPORT		X		
28	BATTLE LOSS SPOT REPORT		X		
	MEDICAL EVACUATION REQUEST		X		
30	PERSONNEL BATTLE LOSS REPORT		X		
31	WARNING ORDER		X		
32	OPERATIONS ORDER		X		
33	FRAGMENTARY ORDER (FRAGO:		X		
34	FLANS AND ANALYSIS AIDS		X		
35	INTELLIGENCE SUMMARY REPORT		X		
3€	MIJI REPORT		X		
37	POW/CAPTURED MATERIAL REPORT		X		
38	PERSONNEL DAILY SUMMARY REPORT		X		
	SENSITIVE ITEMS REPORT		X		
40	EMBERDER TRAINING		X		

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: ARMOR AND CAV UNITS ECHELON: CO

PRIORITY	TASK/FUNCTION	FORCE	LEVEL	MFA	UNIQUE
1	POSITION/NAVIGATION		х		
	SYSTEMS INTERFACES		X		
	GRAPHICS		Х		
4	REQUEST/ADJUST FS (CALL FOR FIRE)		Х		
5	FIRE SUPPORT PLANNING ELEMENTS		Х		
6	ALERTS (NBC, FAAD, RECON STATUS)		X		
7	NBC 1		Х		
8	NBC 3		X		
9	NBC 4		Х		
10	NBC 5		X		
11	EFFECTIVE DOWNWIND MESSAGE		Х		
12	DOSIMETRY REPORT		Х		
13	STRIKEWARN		X		
14	CHEMWARN		X		
15	SHELL/MORT/BOMREP		X		
16	SPOT REPORT		X		
17	SITUATION REPORT		X		
	CONTACT REPORT		Х		
	BRIDGE REPORT		Χ .		
	MINEFIELD REPORT		X		
	OBSTACLE REPORT		X		
22	ROUTE RECON REPORT				X
	AMMO STATUS REFORT		X		
	POL STATUS REPORT		X		
	AMMO REQUEST		X		
	POL REQUEST		X		
	EQUIPMENT STATUS REPORT		X		
	BATTLE LOSS SPOT REPORT		X		
	MEDICAL EVACUATION REQUEST		X		
	PERSONNEL BATTLE LOSS REPORT		X		
	WARNING ORDER		X		
	OPERATIONS ORDER		X		
33	FRAGMENTARY ORDER (FRAGO)		X		
34	FLANS AND ANALYSIS AIDS		X		
35	· · · · · · · · · · · · · · · · · · ·		Х		
	POW/CAPTURED MATERIAL REPORT		X		
	PERSONNEL DAILY SUMMARY REPORT		X		
38	SENSITIVE ITEMS REPORT		X		
39	EMBEDDED TRAINING		X ·		

2220044 PRESENT INVIDED ALLEGARITHMESSESSIFF PROPERTY PRO

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: ARMOR AND CAV UNITS ECHELON: PLT

PRIORITY	TASK/FUNCTION	FORCE	LEVEL	MFA	UNIQUE
1	POSITION/NAVIGATION		X		
2	SYSTEMS INTERFACES		X		
3			Х		
4	REQUEST/ADJUST FS (CALL FOR FIRE)				
5	FIRE SUPPORT PLANNING ELEMENTS		Х		
6	ALERTS (NBC, FAAD, RECON STATUS)		X		
7	NBC 1		Х		
8	NBC 3		X		
9	NBC 4		Х		
10	NBC 5		X		
11	EFFECTIVE DOWNWIND MESSAGE		Х		
12	DOSIMETRY REPORT		X		
13	STRIKEWARN		X		
14	CHEMWARN		X		
15	SHELL/MORT/BOMREP		Х .		
16	SPOT REPORT		Х		
17	SITUATION REPORT		X		
18	CONTACT REPORT		Х		
19	BRIDGE REPORT		X.		
20	MINEFIELD REPORT .		Х		
	OBSTACLE REPORT		X		
	ROUTE RECON REPORT				X
	AMMO STATUS REPORT		X		
24			X		
25	AMMO REQUEST		Х		
26	POL REQUEST		X		
	EQUIPMENT STATUS REPORT		X		
	BATTLE LOSS SPOT REPORT		X		
29	MEDICAL EVACUATION REQUEST		X		
	PERSONNEL BATTLE LOSS REPORT		X		
	WARNING ORDER		X		
	OPERATIONS ORDER		X		
	FRAGMENTARY ORDER (FRAGO)		X		
34	PLANS AND ANALYSIS AIDS		Z		
35	MIJI REPORT		X		
	POW/CAPTURED MATERIAL REPORT		X		
	PERSONNEL DAILY SUMMARY REPORT		X		
	SENSITIVE ITEMS REPORT		X		
39	EMBEDDED TRAINING		X		

TOTAL SECTION OF THE PROPERTY OF THE PROPERTY

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT	: ARMOR AND CAV UNITS	ECHELON: IND VEH	
PRIORITY	TASK/FUNCTION	FORCE LEVEL MFA UNIQ	UΞ
1	POSITION/NAVIGATION	X	
2	SYSTEMS INTERFACES	X	
3	GRAPHICS	X	
4	REQUEST/ADJUST FS (CALL FOR FIRE)	X	
5	FIRE SUPPORT PLANNING ELEMENTS	Х	
6	ALERTS (NBC, FAAD, RECON STATUS)	X	
7	NBC 1	Х	
8	NBC 3	Х	
9	NBC 4	Х	
10	NBC 5	Х	
11	EFFECTIVE DOWNWIND MESSAGE	Х	
12	DOSIMETRY REPORT	Х	
13	STRIKEWARN	Х	
14	CHEMWARN	Х	
15	SHELL/MORT/BOMREP	X	
	SPOT REPORT	X	
:7	SITUATION REFORT	X	
18	CONTACT REPORT	Х	
19	BRIDGE REPORT	X	
20	MINEFIELD REPORT	Х	
21	OBSTACLE REPORT	X	
22	ROUTE RECON REPORT	Х	
23	AMMO STATUS REPORT	X	
24		X	
25		Х	
	POL REQUEST	Х	
	EQUIPMENT STATUS REPORT	X	
28	BATTLE LOSS SPOT REPORT	X	
29	MEDICAL EVACUATION REQUEST	X	
30	PERSONNEL BATTLE LOSS REPORT	<u>v</u>	
3.	MICI REPORT	X X X X	
30		X	
33	SENSITIVE ITEMS REPORT		
34	EMBEDDED TRAINING	Ж	

SECTION II. IDENTIFICATION OF HARDWARE REQUIREMENTS

CANDIDATE SOLUTIONS

TYPE UNIT: MI ARMOR UNITS ECHELON: BN OPERATOR: BN COMMANDER

HIGH PAYOFF TASKS TO BE AUTOMATED	;		HARDV	VARE O	PERATI(NAL CAP	ABILITY	ť						,
			DEV			••••••	• • • • • •		•		• • • • • •	• • • • • • • •		
			PCU	V1/V2) OR :	CC (V:/)	7 21							
	:		HTU			•	• • • • • • • • • • • • • • • • • • • •		- :		:			
	ON	DIS-		TEXT	TEXT	VISUAL ALERT	CESS	DATA	DIGITAL MAP BACKGRD	. XAV	:767	SENSOR	TCH SEN FREE DRW GRAPHICS	DATA
POSITION/NAVIGATION	; ; 3	: 3	; ; 3	; ; 2	: : 2	: : 2	; · 3	:	3 . 2			: : 2		. 3
SYSTEMS INTERFACES	; 3	, 3	: 2			: 3	; 3	. 3	. 2	: 3	: 3	: 3		3
GRAPHICS	; 3	: 3	; 3	1 1	: 1	: 2	: 3	: 3	: 3	; 3	. ,			: 3-
REQUEST ADJUST FS (CALL FOR FIRE)	; 3	: 3	: 3		1	. 2	: 3	: 3	. 3	. 3	: :	3	. 2	: 3
FIRE SUPPORT PLANNING ELEMENTS	; 3	3	: 3		1:	. 2	1 3	. 3	; 3	; 2	: 1	. 1	3	, 3
ALERTS (NBC, FAAD, RECON STATUS)	: 3	. 3	: 3		1	3	. 3	. 3	; 3	: 3	: :	: 3		; 3
NBC 1	: 3	: 3	: 3	3	11	: 3	: 3	: 3	3	: 3	: :	: 3	3	3
NBC 3	: 3	: 2	: 3	1 1	: 1				3		1	1 1	. 2	: 3
XEC 4	: 3	3	. 3	: 3	1 1		: 3	: 3	3	3	1	; 3		3
NBC 5	: 3	: 3	: 3	: 3	1 1		: 2	: 3	; 3	: 3		, :		. 3
EFFECTIVE DOWNWIND MESSAGE	: 3	3	3	1	: 1	. 3	: 2	: 3	. 3	3	•		. 2	: 3
DOSIMETRY REPORT	; 3	: 3	: 3	3	1		; 3	: 3	1		; ;	į		3
STRIKEWARN	: 3	3	: 3	: 1	1			. 3	3	3			_	3
CHEKWARN	: 3	: 3	: 3	1				3		. 3	. 1		2	3
SFELL/MORT/BOMREP	: 3	3	: 3	3	1	. 7	. 2		. 1	3	•		3 3	3
SPOT REPORT	: 3	: 3	: 3	: 3	. 1	: 3	. 3	. 3	. 3	. 3	•	•	3	3
SITUATION REPORT	. 3	: 3	: 3	3	1 1	: 3	. 3	: 3	. 3	3	2		7	3
CONTACT REPORT	: 3	. 3	: 3	: 3	•	. 7	. 7	. 7	. 7	: 3	3	3	•	3
BRIDGE REPORT	. 3	. 3	3	: 3	1	3	. 3	٠ ٦	٠ ٦	3			•	. 3
MINEFIELD REPORT	. 3	: 3	: 3	3	: 1	: 3	. 3	3	: 3	3			7	7
OBSTACLE REPORT	. 3	. 3	, 1	. 3		3	- 7	٠ ٦	7	. 3		•	•	7
ROUTE RECON REPORT	. 3	3	. 3	. 1	. 5	3 3 3	7		7	7	,		-	7
AMMO STATUS REPORT		1	. 7	7	•	3	3		•			•		1
FOL STATUS REPORT	7	3	3		•	3	3	3	:				•	•
TAND SEVASEL	7	. 7			:	3	3	, 3	· ;	•	•	•	•	7
POL REQUEST	: 3	, 7	. :		; ;	, :		, 3		2	•	•	•	•
FOU ADVICES. FOUIPMENT STATUS REPORT	3	. 1	•	7	,	•	7	•	•			•	٠	•
BATTLE LOSS SPOT REPORT		. 3	3			3 3 3	;)	. 3	. 3	•	*	•	•	7
WESTER! ENAPHAMENT DESTEEM	7	7		:	:	J 7	3	3	. 3	ن •	•	•		-
RESIDES SYMPTONION REGISS.	3	;		3	•	3	3		;	;	•	•	:	-
PERSONNEL BATTLE LOSS REFORT	3		3			3	. 1		•	•	•	•		
WARNING ORIER	2	. 5	ذ	<i>:</i>	. 2	•	:	5	3	:	•	•	<u>:</u>	:

CANDIDATE SOLUTIONS

TYPE UNIT: NO ARMOR UNITS			•	ECHEL	0 %: 3 %	i			JFERATI)a: a	en oon	MANTER		
HIGH PAYOFF TASKS TO BE AUTOMATED	 ;		CAAH	WARE O	PERATIO	NAL CAP	ABILITY	· · · · · · · · · · · · · · · · · · ·						
	;		DEV :	XET:										
			PCU	(V1/V2) OR 7	CO (VI/	V2)							
			HTU						· :					
	OPER OX MOVE	ACT DIS-	OPNGRAP			:AUDIO/ :VISUAL :ALERT		DATA	DIGITAL : MAP : BACKGRD	POS/ NAV DATA	AUTO	BTLFLD SENSOR	TCH SEN FREE DRW GRAPHICS	
	;	;	;	: _	;	;	1		1		;	;	,	• ;
OPERATIONS ORDER	: 2	; 3	; 3	3	. 2	. 3	3	; 3	3	: 3	÷	•	3	. 3 :
FRAGMENTARY ORDER (FRAGO)	: 3	3	: 3	: 3	- 2	: 3	' 3	3	. 3	3	1 1	•	3	3
PLANS AND ANALYSIS AIDS	. 3	3	: 3	1 1	; 1	1 -	: 3	: 3	: 3	: 2			3	; 2 ;
INTELLIGENCE SUMMARY REPORT	: 3	1 1	: 3	. :		: 3	: 3	: 3	; 3	: 3	: !	2	. 2	: 3 :
MIJI REPORT	: 3	3	: 2	; 3	; ;	: 3	: 3	; 3	: 1		. 1		1	1.2
POW/CAPTURED MATERIAL REPORT	: 3	: 3	2	: 3	: 1	: 3	: 3	. 3	; 2	2	1		:	2-
PERSONNEL DAILY SUMMARY REPORT	: 3	: 3	: 2	3	:	. 3	: 2	. 2	: 2	. 5	1		•	· • •
SENSITIVE ITEMS REPORT	; 3	: 3	: 1	: 3	: :	. 3	. 3	, 3	. 1		: 1	:	•	: : .
EMBEDDED TRAINING	3	. 3	; 3	: 3	; 2	: 3	: 3	3	3	, 3	: :	1	3	3

HARDWARE SOLUTION: DEV ITEM

- 1 NO CONTRIBUTION 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: M60 ARMOR UNITS ECHELON: BN OPERATOR: BN COMMANDER

HIGH PAYOFF TASKS TO BE AUTOMATED	1		HARD	WARE O	PERATIO	NAL CAP								
	:	• • • • • • •	DEV	ITEM										
	:		PCU	(V1/V2)	OR 1	Ca (A1)				•••••				
	;		HTU						- !		t 1			
	OPER			: TEXT	TEXT	:VISUAL		DATA	DIGITAL MAP BACKGRD	NAV	TGT	SEMSOR	TCH SEN FREE DRW GRAPHICS	DATA
POSITION/NAVIGATION	3	3	: 3	: 2	; 2	: 2		: 3		3	2	. 2	3	3
SYSTEMS INTERFACES	: 3	; 3	: 2	; 2	: 2	: 3	; 3	: 3	; 2	; 3	3	3	•	: 3
GRAPHICS	: 3	: 3	: 3	: 1	1 1	: 2	; 3	: 3	: 3		: 2	: 3	3	3-
REQUEST/ADJUST FS (CALL FOR FIRE)	; 3	: 3	: 3	; 3	: :	; 2	; 3	; 3	: 3	, 3	: 1		: 2	. 3
FIRE SUPPORT PLANNING ELEMENTS	: 3	: 3	; 3	: 3	1 1	: 2	: 3	: 3	: 3	. 2	. 1	. :	: 3	. 3
ALERTS (NBC, FAAD, RECON STATUS)	: 3	: 3	: 3	; 3	: 1	: 3	: 3	: 3	: 3	; 3	; ;	. 3	; ;	: 3
MBC 1	3	; 3	: 3	: 3	: 1	: 3	: 3	; 3	: 3	: 3	1 1	: 3	3 : 2 : 3 : 1	: 3
NEC 3	3	. 2	: 3	1 1	: 1	: 3	2	: 3	: 3	. 3	1.1	: :	: 2	3
XBC 4	: 3	: 3	: 3	. 3	1.1	, 3	: 3	3	3	- 3		, 3	1	. 3
NEC 5	3	; 3	; 3	: 3	; ;	: 3	: 2	3	3	3	: 1	:	2	: 3 .
EFFECTIVE DOWNWIND MESSAGE	; 3	; 3	3	; 1	1 1	: 3	1 0	7	, 7	3			. 2	3
DOSIMETRY REPORT	: 3	: 3	. 3	; 3	. 1	. 3	. 3	. 3				3		3 .
STRIKEWARX	: 3	: 3	: 3		: 1	3	: 2	; 3	; 3	: 3	1		2 2	3 .
CHEYWARY	. 3	; 3	: 3	; 1	:	3	. 2	3	3	3	:		2	. 3
SHEUL/MORT/EGMREP	3	; 3	; 3	3	1 1	3	. 3	: 3	3	3		:	2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3
SPCT REPORT	: 3	. 3	: 3	, 3		: 3	: 3	3	3	. 3	2	2	. 3	3
SITUATION REPORT	: 3	. 3	: 3	3	: 1	; 3	: 3	. 3	. 3	; 3	: 2	4 2	3	3
CONTACT REPORT	3	. 3	. 3	: 3	1.1	: 3	3	: 3	3	. 3	: 3	3		3
BRIDGE REPORT	, 3	3	. 3	: 3		: 3	. 3	: 3	3	3				:
MINEFIELD REPORT	3	3	3	; 3		: 3	. 3	; 3	3	. 3			3	3
OBSTACLE REPORT	. 3	. 3	: 3	: 3	· 2		: 3	. 3	: 3	: 3	, :		3	33333
ROUTE RECON REPORT	3	3	3	, 3	2	: 3	. 3	3	. 3	3	. 2	: 1	3	ĩ
AMMO STATUS REPORT	3	3	. 3	. 3				: 3		i		:		3
POL STATUS REPORT	3	3	. 3	. 3		3	3 : 3	- 3	:					3
ANOXO REQUEST	3	3	. :	3		3	: 3	. 3	: 2	: 2	:			1
POL REQUEST	- 3	3		3	; :	: 3	3	: 3	2		, ;	•		3
EQUIFMENT STATUS REPORT	3	. 3		. 1	;	. 3	; 3	: 3						61 63 63 63 63 63
BATTLE LOSS SPOT REPORT		3	3	3	•	3	3	3	; 3	3		-	•	3
MEDICAL EVACUATION REQUEST			3	. 3	•		3	: 3	3	3	•		3	3
PERSONNEL BATTLE LOSS REPORT	. 3	3	:	3		3	3	3	•		•			
WARNING ORDER	3	. 7	3	, ,	. 2	. 3	3		3	,			•	•

CANDIDATE SOLUTIONS

TYPE UNIT: M60 ARMOR UNITS				ECHELO)N: 31	N			ÖFERAT	Zā:	en com	RECKAN		
HIGH PAYOFF TASKS TO BE AUTOMATED	· · · · · · · · · · · · · · · · · · ·		NGRAH	VARE OF	PERATIO	ONAL CAP	ABILITY	· · · · · · · · · · · · · · · · · · ·						:
			DEV 3	TEM						•••••				
		·	PCU	(V1/V2)	OR ?	TCU (V1/	V2)			•••••	:			
	;		HTU			*			• ;					;
	OPER	:DIS-	OPN GRAP			AUDIO/ VISUAL		DATA	DIGITAL MAP BACKGRD	: NAV	AUTO	BTLFLD SENSOR INPUT	TOH SEN FREE DEW GRAPHICS	
AREDIETAVA ADDED	:	: .	:	:	:		;	: -	:		:	:	;	; ;
OPERATIONS ORDER	: 2	; 3	; 3	; 3	: 2	; 3	: 3	; 3	: 3	; 3	1	1 1	3	: 3 :
FRAGMENTARY ORDER (FRAGO)	; 3	; 3	; 3	1 3	i 2		: 3	. 3	: 1	: 3	1 1		; 3	: 3 :
PLANS AND ANALYSIS AIDS	. 3	, ,	, 3	: 1	1 1		. 3	, 3	, 3	, 2			, ,	3 :
INTELLIGENCE SUMMARY REPORT MIJI REPORT	. 3	1 7		1 1	1 1	, 7	. 3	, 3	. 3	, ,	, .	, 4		3
POW/CAPTURED MATERIAL REPORT	: J	, 3	. 0	. 1	,	, 3	, 3		. ,	, ,		•	, ,	2-
PERSONNEL DAILY SUMMARY REPORT	. 3			, 3	1 1	. 3	. J	, ,	. 2					2
SENSITIVE ITEMS REPORT	: 3	, ,	1 1	, ,		, ,				: *		, ,		1 1
EMBEDDED TRAINING	: 3	: 3	3	; 3	. 2	: 3	: 3	; 3	3	; 3	11	1 1	3	3

HARDWARE SOLUTION: HTG

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: ARMOR UNITS MI ECHELON: BN 0FERATOR: BN S3 OFFICER

HIGH PAYOFF TASKS TO BE AUTOMATED	1		HARD	WARE O	PERATI(ONAL CAP	MELLITY	ř						
	;		DEV	ITEM .	•									
	!		PCU	(V1/V2	OR S	CU (V)/				• • • • • • • • • • • • • • • • • • • •				
	;		etu Htu			• • • • • • • • • • • • • • • • • • • •			· . •		:			
									· †				· · · · · · · · · · · · · · · · · · ·	
	OPER ON MOVE	:DIS-		TEXT	TEXT		CESS	DATA	DIGITAL MAP BACKGRD	VAZ.	: TGT		FREE DRW GRAPHICS	
POSITION/NAVIGATION	. 3	3	3	. 2	: 2	: 2	; 3	3	. 3	. 3	; 2	2	. 3	; 3
SYSTEMS INTERFACES	: 3	: 3	: 2	2	: 2	; 3	: 3	: 3	. 2	3	: 3	. 2	1	· 3
GRAPHICS	: 3	; 3	3	1	1		: 3	: 3	: 3	; 3	: 2	; 3	: 3	: 3-
REQUEST/ADJUST FS (CALL FOR FIRE)	; 3	: 3	; 3	; 3	1 1	: 2	; 3	; 3	: 3	. 3	1			: 3
FIRE SUPPORT PLANNING ELEMENTS	: 3	: 3	; 3	; 3	: 1	: 2	: 3	; 3	3 3	2	. :	:	: 3	: 3
ALERTS (NBC, FAAD, RECON STATUS)	: 3	: 3	: 3	: 3	: 1	. 3	; 3	: 3	: 3	: 3		: 3	1	. 3
NBC 1	: 3 .	: 3	3	; 3	1	: 3	: 3	3	: 3	3		3	3	3
NEC 3	: 3	. 2	3	; 1	1	: 3	2	; 3	; 3	: 3	. 1		. 2	; 3
NBC 4	: 3	: 3	: 3	: 3	: 1	: 3	: 3	1 3	. 3	: 3	: :	: 3	: 1	: 3
NBC 5	. 3	3	: 3	: 3	1.1	: 3	: 2	: 3	: 3	: 3		1 1	. 2	: 3
EFFECTIVE DOWNWIND MESSAGE	; 3	3	: 3	: 1	: 1	; 3	2	. 3	3	; 3			: 2	3
DOSIMETRY REPORT	; 3	; 3	: 3	3	: 1	: 3	3	3	: 3	. 3	. :	. 3	•	3
STRIKEWARN	; 3	: 3	' 3	: 1	: 1	: 3	; 2	; 3	; 3	3	, :		. 2	. 3
CHEWWARN	: 3	: 3	: 3	; 1	; ;	. 3	. 2	; 3	3	3			2	3
SHELL/MORT/BOMREP	; 3	: 3	: 3	: 3	: 1	; 3	: 3	: 3	. 3	3			2	. 3
SPOT REPORT	: 3	: 3	: 3	: 3		: 3	. 3	3	: 3	. 3	. 2		3	3
SITUATION REPORT	: 3	3	3	. 3	, ,	; 3	: 3	3	3	3	. 2	. 2	3	3
CONTACT REPORT	. 3	; 3	; 3	; 3	; 1	; 3	3	3	3	3	3	3	,	. 3
BRIDGE REPORT	: 3	: 3	: 3	; 3	; ;	; 3	; 3	: 3	; 3	. 3	. :			. 3
MINEFIELD REPORT	: 3	: 3	; 3	3	: 1	; 3	: 3	: 3	: 3	. 3	. :	. :	3	- 3
OESTACLE REPORT	: 3	: 3	3	3	: 2	' 3	: 3	: 3	. 3	3		,	. 3	. 3
ROUTE RECON REPORT	; 3	: 3	. 3	: 3	2	; 3	. 3	3	. 3	3	-	ì	3	3
AMMO STATUS REPORT	: 3	3	3	3		3	3	3					•	3
POL STATUS REPORT	. 3	. 3	; 3	, 3	: 1	. 3	: 3	. 3		:				. 3
AXMO REQUEST	. 3	; 3	; ;	; 3	1 1	: 3	. 3	, 3	; 1	2				3
POL REQUEST	. 3	; 3	. 1	; 3		; 3	. 3	. 3	. 2	. 2	. 1			3
EQUIPMENT STATUS REPORT	3	: 3	: 1	: 3	: 1	; 3	: 3	. 3					•	3
BATTLE LOSS SPOT REPORT	: 3	3	3	: 3	: 1	3	3	3	3	3	•		•	3
MEDICAL EVACUATION REQUEST	. 3	3	; 3	: 3	1 1	; 3	. 3	3	3	3			3	3
PERSONNEL BATTLE LOSS REFORT	. 3	, 3		: 3		: 3	3	3						
WARNING CRIER	. 3		3	. 1	,	. 3	3	7	3	•	,	•	;	3

CANDIDATE SOLUTIONS

TYPE UNIT: ARMOR UNITS MI ECHELON: BN GFERATOR: BN S3 OFFICER

HIGH PAYOFF TASKS TO BE AUTOMATED	;		HARD	WARE O	PERATI(ONAL CAP	ABILIT'	Y						
	;		DEV	ITEM										
			PCU	(V1/V2)) OR :	CU (V1/)	V2)			•••••	:			
	:		HTU						- ;		:			
	OPER ON MOVE	ACT DIS-			FREE TEXT	: AUDIO/ : VISUAL : ALERT		STORE	DIGITAL MAP BACKGRD	:POS/ :NAV :DATA	: AUTO : TGT : ACQ	BTLFLD SENSOR INPUT	TCH SEN FREE DRW GRAPHICS	PROC DATA BUS
	;	;	;	;	;	;	;	;	•		:	;		;
OPERATIONS ORDER	: 2	: 3	: 3	: 3	: 2	: 3	: 3	; 3	: 3	: 3	1	•	. 3	. 3
FRAGMENTARY ORDER (FRAGO)	: 3	: 3	: 3	: 3	: 2	; 3	: 3	3	; 3	. 3	: 1	: 1	. 3	: 3
PLANS AND ANALYSIS AIDS	: 3	; 3	; 3	: 1	: 1	1 1	: 3	: 3	: 3	: 2	: :	. 1	, 3	: 2
INTELLIGENCE SUMMARY REPORT	: 3	: 1	: 3	: 1	1 1	: 3	3	; 3	3	. 3	; ;	: 2	. 2	: 3
MIJI REPORT	; 3	: 3	; 2	; 1	: 1	: 3	; 3	3	: 1	1	1 1	. 1	1 1	: 1
POW/CAPTURED MATERIAL REPORT	; 3	: 3	; 2	; 3	1.1	: 3	: 3	: 3	. 2	. 2	: :	; 1		· 2-
PERSONNEL DAILY SUMMARY REPORT	: 3	: 3	; 2	: 3	; 1	: 3	. 2	; 2	: 2	: 2	: 1	:	: 1	: 2
SENSITIVE ITEMS REPORT	: 3	; 3	: 1	; 3	: 1	; 3	; 3	: 3	1	: 1	: 1	: 1	: 1	: 1
EMBEDDED TRAINING	: 3	. 3	. 3	: 3	. 2			: 3	3			1 1	7	. 3

HARDWARE SOLUTION: DEV ITEM

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: ARMOR UNITS M60 ECHELON: BM OPERATOR: BM S3 OFFICER

HIGH PAYOFF TASKS TO BE AUTOMATED			HARD	MARE O	PERATI(NAL CAP	ABILITY	· · · · · · · · · · · · · · · · · · ·						
	,		DEV :											;
	:					Ca (A1)					i :			;
	;	• • • • • •	HTU						·; ;		# 			:
													TCH SEN	
	: MOVE					VISUAL			BACKGRD				FREE DRW	
POSITION/NAVIGATION	: 3	3	3			: 2		: 3			: : 2	. 2	. 3	: 3 :
SYSTEMS INTERFACES	: 3	: 3	: 2	1 2	: 2	: 3	: 3	3	; 2		1 3	. 2	•	3 3
GRAPHICS	: 3	; 3	3	1 1	1.1	: 2		: 3			: 2	; 3	3	. 3-
REQUEST/ADJUST FS (CALL FOR FIRE)	: 3	: 3	: 3	: 3	1.1	1 2	: 3	3	, 3	; 3	: :		. 2	3
FIRE SUPPORT PLANNING ELEMENTS	: 3	: 3	: 3	: 3	1 1	: 2			; 3	. 2	: 1	1	3	'3 .
ALERTS (NBC, FAAD, RECON STATUS)	; 3	: 3	; 3	: 3	1.1	: 3			; 3	; 3	1	; 3	. 1	1.3
MBC :	¹ 3	: 3	; 3	3	1	: 3	: 3	: 3	; 3	: 3	1 1	3	. 3	3 3
NBC 3	; 3	2	1 3	: 1	1.1	; 3	: 2	3	3	: 3	. 1	. 1	2	3
NBC 4	; 3	3	: 3	3	1 1	; 3	: 3		1 3	3	:	3	. 1	: 3
NBC 5	: 3	3	3	: 3	; 1	: 3	. 2	: 3	: 3				2	3 .
EFFECTIVE DOWNWIND MESSAGE	: 3	3	: 3	1 1	1.1	: 3	; 2	: 3	; 3	; 3	. 1		. 2	3 :
DOSIMETRY REPORT	: 3	: 3	: 3	3	: 1	: 3	: 3	: 3	: 3	3	: 1	3	ì	3
STRIKEWARN	: 3	; 3	: 3	; 1	: 1	; 3	: 2	: 3	; 3	: 3		. :	Ç	: 3
CHEXWARY	: 3	3	1 3	1 1	: 1	. 3	: 2	. 3	; 3	: 3		•	2	3 .
SHELL/MORT/BOMREP	3	: 3	: 3	; 3	; 1	: 3	: 3	: 3	: 3	. 3	• :		2	3
SPOT REPORT	3	. 3	: 3	: 3	: 1	: 3	: 3	: 3	3	3	. 2	2	. 3	3 .
SITUATION REPORT	: 3	; 3	. 3	: 3	1 1	: 3					1 2	: 2	: 3	3
CONTACT REPORT	; 3	: 3	3	3	1	3	: 3	: 3		. 3	3	. 3	•	3
BRIDGE REPORT	: 3	; 3	: 3	; 3	+ 1	. 3		. 3	3	. 3	•	•	•	3
MINEFIELD REPORT	: 3	3	3	: 3	: 1	; 3	: 3	- 3	. 3	. 3		1	3	3
GBSTACLE REPORT	: 3	; 3	: 3	; 3	; 2	: 3	-	3	•	J			1	
ROUTE RECOM REPORT	; 3	3	3	. 3	2	: 3	3	3	3	3	2	ì	3	3
AMMO STATUS REPORT	3	. 3	3	, 3			3	3	•	•	•	•	•	3
	. 3	. 3	: 3	3	•	3 -	. 3	3	•	•	•	•	•	2
	; 3	; 3	1 1	: 3		. 3		3	3	i	•	•	•	:
	; 3	. 3		3		3	3	3	2	-	•	•	•	
EQUIPMENT STATUS REPORT		3		. 3	: :	: 3	3	3	3		•	•	•	•
BATTLE LOSS SPOT REPORT	3	3	3	3		J	٠. ن	. 3	3	3	•	•	:	:
MEDICAL EVACUATION REQUEST	3	3	3	; 3	•	3		:	-	:		•	7	<u>:</u>
PERSONNEL BATTLE LOSS REPORT	3 3 3 3	3		3	:	3	3	3			•	•		:
WARNING ORDER	3	. 3	: 3	- 3	. 2	. 3	. 3	. 3	3	3		•	:	:

		ID	ENTIFI(CATION	OF HA	ROWARE RE	EQUIRE:	VENTS						
TYPE UNIT: ARMOR UNITS M60					TE SOLI ON: Bi				OFERATO)a: :	88 83 (OFFICER		
HIGH PAYOFF TASKS TO BE AUTOMATED	:		HARD	WARE O	PERATIO	NAL CAP	ABILITY	· · · · · · · · · · · · · · · · · · ·						
	:		DEA		• -			•••••						
	;					CU (VI/					:			
			HTU								•			
	OPER	ACT	OPN	FMT	FREE	:AUDIO/	:PRO-	STORE	DIGITAL	.POS/	AUTO	BTLFLD	TCH SEN	PRO
			HICS	MSG	: XISG	ALERT	DATA	1	:BACKGRD	ATAC	ACQ	INPUT	GRAPHICS	
OPERATIONS ORDER	; • n	;	;	; 7		; 7	; 7	; 7	;	:	:	:	: 3	. 1
FRAGMENTARY ORDER (FRAGO)	1.3	: 3	. 3	: 3	: 2	. 3	3	3	; 3 ; 3	. 3	. 1	•		. 3
FLANS AND ANALYSIS AIDS	: 3	: 3	: 3	: :	1	1 1	: 3	3	. 3	: 2		:		- 2
INTELLIGENCE SUMMARY REPORT			; 3	1	. 1	3	: 3	: 3	. 3	3		: 2	: 2	: 3
NIJI REPORT										:		: :	: :	. :
POW/CAPTURED MATERIAL REPORT	: 3	; 3	: 2	: 3	:	: 3	; 3	: 3	. 2	: 2	:		:	; 2-
PERSONNEL DAILY SUMMARY REPORT	: 3	; 3	: 2	' 3	1 1	; 3	: 2	1 2	2 2	2	:	. :	1	: 2
SENSITIVE ITEMS REPORT	: 3	: 3	: 1	; 3	1	3	; 3	: 3			- 1		1	: 1
	_	, 7	3	: 3	: 2	: 3	3	; 3	; 3	3	: 1	; 1	: 3	: 3

CANDIDATE SOLUTIONS

TYPE UNIT: M1 & M60 ARMOR UNITS ECHELON: BN 97ERATOR: BN 52 AND 53 SEC

HIGH PAYOFF TASKS TO BE AUTOMATED	:		HARD	WARE O	PERATIO	NAL CAP	ABILITY	Y						
			DEV	TEM										
	;		PCU	(V1/V2)	OR 7	.ca (A1\.	72)							
	:		HTU						· • • • • • • • • • • • • • • • • • • •					
	OPER ON NOVE			TEXT	TEXT	:VISUAL		:DATA	DIGITAL MAP BACKGRD	: XAV	TGT		TCH SEN FREE DRW GRAPHICS	DATA
POSITION/NAVIGATION	;	;	;	; ; 2	:	:	;	; : 3	; ; 3	: 3	: 3	; 3	2	: 3
SYSTEMS INTERFACES	. 3	1 3	. 2	: 2	: 2	: 3		: 3		3	. 3	: 3		3-
GRAPEICS	: 3	3	3	! !	: 1	. 0	: 3	3	: 3	: 3	: 3	3	. 2	. 3
REQUEST/ADJUST FS (CALL FOR FIRE)	: 3	1 3	: 3	. 3	: 1	; 3	: 3	: 3		: 3	: 1	: :	2	: 3
FIRE SUPPORT PLANNING ELEMENTS	; 3	: 3	: 3	3	1.1	: 3		3		. 3	1 1	: 1		: 3
ALERIS (NBC, FAAD, RECON STATUS)	: 3		. 3	: 3		: 3	; 3	: 3	; 3	. 7		3		: 3
NEC 1	: 3	, ,	. 3		• •	3	: 3	: 3	; 3	: 3	1 1		2	: 3
NBC 3	: 3	: 3	: 3	: 3	: 1	: 3		: 3		. 3	: 1		. 2	: 3
NEC 4	. 3			. 3	•	. 3		. 3		, ,		3		: 3
N3C 5	: 3	. 3		. 3	1	; 3		: 3		. 3	•		2	3
EFFECTIVE DOWNWIND MESSAGE	. 3	: 3	: 3		1	; 3	: 3	3	. 3	3	•		2	3
DOSIMETRY REPORT	: 3	: 3	. 3	: 3	1	3	3	. 3			•	3	: :	·
STRIKEWARN	. 3	: 3	: 3	: 3	: 1	: 3		: 3	3	3	•	, ,	2	3
CHEMWARN	: 3	: 3	: 3	: 3	. 1	: 3		. 3		3	•	•	2	3
SHELL/MCRT/BOMREP	3	3	3	. 3	, .	3	3		3	. 3	•	•	•	3
SPOT REPORT	3	. 3	: 3	. 3	, ;	. 3	. 3	3	3	3	•	•	•	3
SITUATION REPORT	3	3	. 3	: 3	•	: 3	. 3	3	3	,			•	•
CONTACT REPORT	. 3	. 3	3	. 3	•	: 3	. 3	3	3	3	÷	•	•	
BAIDGE REPORT	3	: 3	. 3	3	•	. 3	. 3	3	. 1	,	·	•	•	9
MINEFIELD REPORT	3	3	3	3	•	. 1	3	3	, ;	3	:	•	•	3
OBSTACLE REPORT	3	. 3	3	: 3		. 3	3	7	:	•	•		:	7
ROUTE RECON REPORT	: 3	, 3	3		7	3	3	1	3		-	•	• }	
AMMO STATUS REFORT	3	3	3	3	3	3	3	,	•	3	•			-
FOL STATUS REPORT	. 3	3	. 3	; 3		3 .	3	3	•	3	•	•	•	•
AMMO REQUEST	. 3	1	. 3	3	3			•	2	3	:	•	•	3
POT MIGREST		. 3		3	3	3 3 3	7	3	3	3	:		•	7
POULPMENT STATUS REPORT	1.3		ì	•	3	3	7	3		. :	•		•	
BATTLE LOSS SPOT REPORT	. 3	3	3	•	7	3	;	3	;	,	•	•	•	;
MEDICAL EVACUATION REQUEST			7	7		7	;	7	1	;	:	•	•	-
PERSONNEL BATTLE LOSS REPORT	3	7		7	•	3	3	3			•	•	•	•
WARNING ORDER	ن ع	-	3	3	3	3	. 3	3	:	7	:	•	:	:

CANDIDATE SOLUTIONS

TYPE UNIT: N1 & M60 ARMOR UNITS				ECHEL	ON: Bl	N .			OPERATO)ā: I	5% S2 /	AND SE		
HIGH PAYOFF TASKS TO BE AUTOMATED	:		HARD	WARE O	PERATI(ONAL CAP	ABILITY	· · · · · · · · · · · · · · · ·				· • ·		:
			DEV	ITEM								••••••		
	;		PCU	(V1/V2) OR ?	TCU (V1/	V2)				;			:
	;	•••••	HTU					•	•					;
	OPER	:DIS-	OPN GRAP	FMT TEXT				DATA	DIGITAL MAP BACKGRD	:POS/ 'NAV :DATA	TGT	ETLFLD SENSOR	TCH SEN FREE DRW	
	1	:	1	;	;	;	1	:	ř	i	1		;	: :
OPERATIONS ORDER	: 2	; 3	: 3	: 3	: 2	: 3	: 3	: 3	: 3	: 3	; :	: :	1 2	: 3 ;
FRAGMENTARY ORDER (FRAGO)	; 3	: 3	: 3	: 3	; 2	; 3	; 3	: 3	, 3	3	1.1	1 1	; 2	. 3 :
PLANS AND ANALYSIS AIDS	; 3	: 3	; 3	: 1	1 1	1	: 3	: 3	. 3	2	: 1	1 1	: 2	: 2 :
INTELLIGENCE SUMMARY REPORT	: 3	; 3	; 3	: 1	: 3	; 3	: 3	: 3	; 3	; 3	. :	: 2	: 2	: 3 :
MIJI REPORT	: 3	; 3	: 2	; 3	1.1	; 3	: 3	: 3	: :	: 1	1.1		1	1 1 1
POW/CAPTURED MATERIAL REPORT	: 3	: 3	: 3	: 3	; 1	; 3	: 3	: 3	: 3	3	: 1	: :	:	; 3- :
PERSONNEL DAILY SUMMARY REPORT	: 3	! 3	: 3	; 3	: 1	: 3	: 3	: 3	: 3	: 3	: 1	1 1	: 1	: 3
SENSITIVE ITEMS REPORT	; 3	; 3	; 1	; 3	. 1	; 3	: 3	; 3	: 1	: 1	1 1	: :	1 1	: 1 :
EMBEDDED TRAINING	: 3	: 3	: 3	; 3	: 2	; 3	; 3	; 3	: 3	3	: 1	: :	: 2	: 3 :

HARDWARE SOLUTION: PCU(V2)

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: M1 & M60 ARMOR UNITS ECHELON: 9N OPERATOR: BN S1/S4 CBT TRAINS HARDWARE OPERATIONAL CAPABILITY DEV ITEM PCU (V1/V2) OR TCU (V1/V2) TOPER FACT FORM FMT FREE FAUDIO/ PRO- STORE FDIGITAL POS/ FAUTO BELFED FICH SEN FROCE ION IDIS- GRAP (TEXT (TEXT (VISUAL (CESS DATA MAP NAV)TGT (SENSOR FREE DRW DATA) IMOVE IPLAY THICS IMSG IMSG TALERT IDATA : BACKGRD DATA LACQ LINPUT GRAPHICS BUS L 1 1 1 POSITION/NAVIGATION 13 ; 3 ; . 3 3 ; 3 ; 2 1 3 1 3 1 3 1 1 SYSTEMS INTERFACES : 3 : 3 GRAPHICS 3 3 . 3 : 3 : 3 : 3 : 3 : REQUEST/ADJUST FS (CALL FOR FIRE) : 3 : : 3 : 3 FIRE SUPPORT PLANNING ELEMENTS : 3 : 3 3 ALERTS (NBC.FAAD, RECON STATUS) 3 3 3 NBC 1 NBC 3 : 3 : 3 : 1 : 3 : 3 : 3 : ; 3 3 : 3 : 1 : 3 NBC 4 : 3 3 1 1 1 3 1 3 1 3 1 : 3 3 , 1 ! 3 ! 3 ! 3 ! NBC 5 : 3 : 3 EFFECTIVE DOWNWIND MESSAGE : 3 : 3 : 3 3 3 ; 3 3 : 1 : 3 : 3 : 3 : DOSIMETRY REPORT STRIKEWARN : 3 CHEMWARN : 3 : 3 SHELL/MORT/BOMREP : 3 3 ; 3 ; 1 ; 3 3 3 3 SPOT REPORT : 3 3 3 SITUATION REPORT ; 3 3 CONTACT REPORT : 3 BRIDGE REPORT : 3 3 : 1 3 3 3 MINEFIELD REPORT : 3 OBSTACLE REPORT ; 3 , 3 , 1 3 , 3 . 3 3 3 1.3 3 : 3 ROUTE RECON REPORT AMMO STATUS REPORT 3 3 3 POL STATUS REPORT : 3 : 3 : 3 . ANNO REQUEST POL REQUEST . 3 EQUIPMENT STATUS REFORT BATTLE LOSS SPOT REPORT 3 3 : : 3 : 3 3 MEDICAL EVACUATION REQUEST 3 3 3 3 3 1

3 3 3 3 3

3 3 1 3 1 2 3 3 3

3 3

PERSONNEL BATTLE LOSS REPORT

WARNING ORDER

CANDIDATE SOLUTIONS

TYPE UNIT: MI & M60 ARMOR UNITS				ECHEL() : B!	N.			GPERAT()R: :	BW 81/8	e4 cem Ti	EAINS		
HIGH PAYOFF TASKS TO BE AUTOMATED	:		VDEAH	ARE O	PERATI(DNAL CAP	ABILITY	· · · · · · · · · · · · · · · · · · ·							
			DEV 1	TEM										:	
	;		PCU	V1/V2	OR 1	ECU (V1/	72)			•••••	:				:
			HTU						- ;					:	:
	OPER ON MOVE	:DIS-	OPNGRAP			AUDIO/ VISUAL		DATA	DIGITAL MAP BACKGRD	VAZ	TGT	BTLFLD SENSOR NPUT		PROC DATA	
OPERATIONS ORDER	: 2	: 3	: 3	: 3	: 2	3	: 3	; ; 3	: 3	. 3	: :	. •	ງ	: :	•
FRAGMENTARY ORDER (FRAGO)	: 3	: 3	: 3	. 3	. 2	: 3	: 3	: 3	; 3	. 3	: 1	•	: 2	: 3	,
PLANS AND ANALYSIS AIDS	. 3	; 3	; 3	1	1	1	3	3	; 3	2			. 2	; 2	
INTELLIGENCE SUMMARY REPORT	3	: 3	: 3	; 1	3	; 3	3	3	: 3	, 3	: 1	2	1 2	: 3	:
MIJI REPORT	: 3	. 3	: 2	: 3	1 1	; 3	; 3	: 3	. :	; ;	: :	. :	. 1	. 1	
POW/CAPTURED MATERIAL REPORT	: 3	: 3	: 3	3	1.1	: 3	; 3	: 3	; 3	: 3	1.1	1	; 1	. 3-	,
PERSONNEL DAILY SUMMARY REPORT	; 3	; 3	: 3	: 3	; 1	: 3	; 3	: 3	: 3	3	: 1	1 1	1	: 3	•
SENSITIVE ITEMS REPORT	: 3	: 3	: 1	: 3	: 1	; 3	: 3	: 3	1 1	: 1	1.1	1	. 1	1	1
EMBEDDED TRAINING	; 3	: 3	: 3	; 3	; 2	: 3	: 3	1 3	; 3	: 3	- 1	: 1	2	3	;

HARDWARE SOLUTION: PCU(V2)

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: MI ARMOR UNITS ECHELON: CO OPERATOR: CO CLR AND NO

HIGH PAYOFF TASKS TO BE AUTOMATED	;		HARD	WARE O	PERATIO	NAL CAP	ABILITY	Y						
	;		DEV	KETI										
	;: ;		PCU	(V1/V2) OR 1	CU (V1/	V2)							:
	;		HTU						•;					;
														:
	OPER ON MOVE	:DIS-	GRAP	TEXT	:TEXT	VISUAL	CESS	DATA	: YAP	SAV	.TGT	SENSOR	FREE DRW GRAPHICS	DATA
POSITION/NAVIGATION	: 3	3	3	. 2	: 2	2	: 3	: 3	3	3	2	2	3	. 3
SYSTEMS INTERFACES	: 3	; 3	: 2	; 2	: 2	3	: 3	: 3	2	. 3	: 3	. 3	; :	: 3 :
GRAPHICS	: 3	; 3	: 3	1 1	1 1	: 2	. 3	. 3	3	: 3	. 🤈	3	. 3	. 3- :
REQUEST/ADJUST FS (CALL FOR FIRE)		: 3	: 3	1. 3		: 2	; 3	; 3	3	3	; ;	1	. 2	. 3
FIRE SUPPORT PLANNING ELEMENTS	; 3	: 3	; 3	: 3	1 1	: 2	: 3	: 3	: 3	: 2		•	; 3 ; :	; 3 :
ALERTS (NBC, FAAD, RECON STATUS)	; 3	: 3	: 3	; 3	: :	: 3	; 3	: 3	; 3	: 3	: :	3	: :	: 3 :
XBC ; ·	: 3	3	; 3	: 3	: 1				; 3	3	1	3	; 3	: 3 .
NBC 3 NBC 4	; 3	: 2	: 3	1 1	1 1	3				. 3	ì	1 1	3 2	; 3
NBC 4	; 3	: 3	: 3	. 3	: 1	; 3	; 3	: 3	: 3	: 3		3	. 1	. 3
NBC 5	: 3	: 3	: 3	: 3	; 1	; 3	; 2	3	3	. 3	1	1 1	. 4	3 ;
EFFECTIVE DOWNWIND MESSAGE	: 3	: 3	: 3	. 1	1.1	, 3	. 5	. 3	· 3	. 3		. :	: 2	: 3
DOSIMETRY REPORT	; 3	; 3	; 3	, 3	1 1	: 3	; 3	; 3	3 3	. :	: 1	3		3
STRIKEWARN	: 3	1 3	: 3	: :	: :	; 3	: 2	. 3	; 3	. 3	: 1		2	. 3
CHEMWARN	. 3	: 3	; 3	1 1		-	•	-	-				1 2	3
SHELL/MORT/BOMREP	; 3	: 3	: 3	: 3	1	: 3	. 3	3	3	3	: :		2	. 3
SPOT REPORT	: 3	; 3	; 3	: 3	1.1	. 3	3	. 3	3	3	. 2	. 2	3	3 .
SITUATION REPORT	: 3	: 3	; 3	: 3		: 3	. 3	3	3	. 3	2	2	3	: 3
CONTACT REPORT	; 3	: 3	: 3	: 3	: ;	; 3	: 3	3	3 3 3	3	3	3	•	3
BRIDGE REPORT	; 3	: 3	; 3	3	::	. 3	1 3	. 3	3 3 3	3	• •			3
MINEFIELD REPORT	: 3	3	: 3	. 3		; 3	. 3	3	3	3	•		. 3	. 3 .
OBSTACLE REPORT	: 3	: 3	: 3	. 3	: 2	: 3	: 3	: 3	3	3	•	ì	3	3
ROTTE RECON REPORT	. 3	; 3	: 3	: 3	: 2	: 3	. 3	3	3	3		2	3	3
AMMO STATUS REPORT	3	: 3	. 3	3		3	3	3			•	•		3
FOL STATUS REPORT	. 3	: 3	. 3	; 3	. :	: 3	3	3	2					3
AXXO REQUEST	; 3	. 3	. :	3		3	: 3	3	2	2				7
POL REQUEST	: 3	. 3	: :	: 3	: :	-	-	•		1		•	•	3
EQUIPMENT STATUS REPORT	: 3	3	1	: 3	: :	. 3	3	3	3 3		•			3
BATTLE LOSS SPOT REPORT	: 3 : 3	3	: 3	3		: 3	3	3	3	3	•	•	•	3
MEDICAL EVACUATION REQUEST	: 3	. 3	: 3	. 3		3	3	3	3	3		•	7	3
PERSONNEL BATTLE LOSS REPORT	. 3	. 3	. :	3		3	3	3					•	
WARNING ORDER	: 3	; 3	: 3	; 3	: 2	3	3	. 3	3	. 3			3	3

CANDIDATE SOLUTIONS

OPERATOR: CO COR AND NO ECHELON: CO

HIGH PAYOFF TASKS TO BE AUTOMATED	;		CRAH	MARE OF	PERATIO	NAL CAPA	ABILITY	!						
	;		DEV	TEM							,			
			PCU	(V1/V2)	OR 7	ca (A1)	12)							
	;	•••••	HTU						1		;			
	OPER ON MOVE	ACT DIS-	GRAP		FREE TEXT	VISUAL		DATA	:DIGITAL :MAP :BACKGRD	POS/ NAV DATA	AUTO TGT	BTLFLD SENSOR INPUT		:PRCC :DATA :BUS
	1	:	;	:	;	;		1	:	:	•	;	1	:
OPERATIONS ORDER	: 2	: 3	: 3	: 3	: 2	: 3	: 3	3	: 3	. 3	: :	: :	3	; 3
FRAGMENTARY OBDER (FRAGO)	: 3	; 3	: 3	: 3	: 2	: 3	. 3	. 3	3	. 3	. :	; ;	. 3	: 3
PLAKS AND ANALYSIS AIDS	: 3	: 3	; 3	1 1	1 1	ii	: 3	; 3	; 3	. 2	1.1	1	; 3	: 2
INTELLIGENCE SUMMARY REPORT	: 3	; 1	; 3	1 1	1 1	: 3	: 3	: 3	; 3	: 3	1 1	. 2	; 2	: 3
MIJI REPORT	; 3	: 3	: 2	: 3	: 1	: 3	: 3	: 3	; 1	1	1 2	; 1	1	1 :
POW/CAPTURED MATERIAL REPORT	; 3	; 3	: 2	: 3	: 1	: 3	; 3	; 3	: 2	2	1.1	: 1	1 1	: 2-
PERSONNEL DAILY SUMMARY REPORT	; 3	: 3	: 2	: 3	: 1	: 3	; 2	: 2	; 2	: 2	: ;	, ,	1	; 2
SENSITIVE ITEMS REPORT	: 3	: 3	1 1	3	: 1	: 3	: 3	: 3	:	: :	1 1		1 1	: 1
EMBEDDED TRAINING	: 3	; 3	; 3	: 3	: 2	3	: 3	: 3	3	: 3	: :	: 1	: 3	: 3

HARDWARE SOLUTION: DEV ITEM

TYPE UNIT: MI ARMOR UNITS

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: M60 ARMOR UNITS ECHELON: CO OPERATOR: CO CDR AND XO

HIGH PAYOFF TASKS TO BE AUTOMATED	1		HARD	O SEAW	PERATI(NAL CAP	ABILITY	!						
	:		DEV	ITEM				•						
	;		PCC	(V1/V2) OR 7	CU (V1/								
	;		HTU	• • • • • • •					·: :		:			
	OPER ON MOVE	:DIS-	GRAP		TEXT	:VISUAL		DATA		HAV	. TGT	SENSOR	TCH SEN FREE DRW GRAPHICS	DATA
POSITION/NAVIGATION	3	: 3	: 3	: 2	; ; 2	2	: 3	: 3	3	3	; 2	. 2	· 3	; 3
SYSTEMS INTERFACES	; 3	: 3	; 2	: 2	; 2	: 3	: 3	: 3	: 2	: 3	: 3	; 3	; ;	. 3-
GRAPHICS	; 3	: 3	: 3	1 1	: 1	; 2		: .3		: 3	. 2	; 3	, 3	. 3
REQUEST/ADJUST FS (CALL FOR FIRE)	1 3	: 3	: 3	; 3	; 1	: 2		: 3		: 3		,	2	; 3
FIRE SUPPORT PLANNING ELEMENTS	: 3	; 3	; 3	; 3	; 1	: 2	; 3	: 3	٠ 3	2	: :		. 3	: 3
ALERTS (NBC.FAAD.RECON STATUS)	; 3	} 3	; 3	; 3		; 3	: 3	, 3	3	. 3		3		. 3
NBC 1	; 3	; 3	3	: 3	1 1	; 3	; 3	3	: 3	. 3		3	3	. 3
VBC 3	; 3	; 2	; 3	1 1	: 1	; 3	1 2		, 3	, 3		. 1	2	. 3
NBC 4	; 3	: 3	: 3	3	: 1	. 3	: 3	: 3	3	. 3		; 3		: 3
NBC 5	: 3	. 3	: 3	; 3		3	: 2	: 3	3	. 3		1	2	3
EFFECTIVE DOWNWIND MESSAGE	: 3	: 3	, 3	: 1	: 1	3	; 2	3	3	3			2	. 3
DOSIMETRY REPORT	: 3	: 3	: 3	: 3	. 1	: 3	3	, 3		, 1		3		3
STRIKEWARN	3	: 3	. 3		•	. 3	† 2	3	3	3			2	3
CHEMWARK	3	3	. 3			. 3	-	. 3	; 3	3		:	2	3
SHELL/MORT/BOMREP	: 3	: 3	: 3	. 3		3		. 3	3	; 3	•			3
SFOT REPORT	. 3	. 3	. 3	. 3		. 3	3	-	. 3	. 3	Ė	2	3	3
SITUATION REPORT	. 3	: 3	: 3	. 3	. :	. 3	, 3	. 3	. 3	. 3	1	2	3	. 3
CONTACT REPORT	: 3	. 3	: 3	. 3			3		3	3	3	3		3
BRIDGE REPORT	: 3	3	. 7	. 1	•		3			7	•	-	:	7
MINEFIELD REPORT	3	3		3		3	3	3	1	3	:		•	3
DESTACLE REPORT	. 3	. 7	3	3	0	3	3	. 3	, ,	;	•	•	3	7
ROUTE RECON REPORT		. 3	3	3	•		7	3	:	;	•	•	•	7
AXXX STATIS REFIRT	. 3		3	3	•	7	3	3		•	-		•	7
PUL STATUS REPORT	3	7	3	7	•	1	7	3	:	:	•	•	•	7
AVVC REQUEST	. 3	, ,		1	•	7	7	3	:	:	:	:	•	7
POL REGUEST	3	_	•	. 3	,	7	7	3			•	:	•	7
EQUIPMENT STATUS REPORT	7	•	•		•		7	1	•	•	•	•	•	:
BATTLE LOSS SPOT REPORT	7	3	7	3	•	;	:	3	;	:	•	•	•	7
METICAL EMACHATION REQUEST	7	7	3	7	•	3	:			- 7	•	•	7	7
SERSONNEL BATTLE LOSS REFIRE	3		-	7	•	3	3	-	-	-	•	•	÷	•
	7	ა 3	•		:	7	2 7		•	•	•	٠		•
WARNING CRIER	:	3	:	٤	•	÷	÷	-	÷	:		•	:	:

CANDIDATE SOLUTIONS

TYPE UNIT: M60 ARMOR UNITS ECHELON: CO CPERATOR: CO CONTRA NO MC

											. .			- -
HIGH PAYOFF TASKS TO BE AUTOMATED	;		HARD	WARE O	FERATIO	NAL CAP	ABILIT	y						:
	:		DEV	ITEM		******		•••••	• • • • • • • • • • • • • • • • • • • •					
		••••	PCU	(V1/V2) OR 7	CU (V1/	V 2)	•••••			:			
	:	• • • • • •	HTU			• • • • • • • • • • • • • • • • • • • •					,			
	OPER ON MOVE	:DIS-	OPN GRAP		FREE TEXT	AUDIO/ VISUAL		STORE	DIGITAL MAP BACKGRD	:POS/ :NAV :DATA	AUTO TGT ACQ	ETLFLD SENSOR HUPUT	TOH SEX FREE DRW GRAPHICS	
	!		1	;	;	ŧ	i	:	,	:	!	1		: :
OPERATIONS ORDER	; 2	; 3	; 3	; 3	: 2	. 3	. 3	3	. 3	. 3	1 1	. 1	3	3
FRAGMENTARY ORDER (FRAGO)	. 3	3	: 3	: 3	. 2	; 3	: 3	3	. 3	3	1		3	. 3
PLANS AND ANALYSIS AIDS	: 3	; 3	: 3	1 1	; 1	. 1	3	: 3	: 3	. 2	1 1		. 3	2
INTELLIGENCE SUMMARY REPORT	: 3	1 1	; 3	1 1	; 1	; 3	3	; 3	: 3	. 3	: 1	. 2	. 2	: 3 .
MIJI REPORT	; 3	; 3	; 2	; 3	: i	: 3	: 3	: 3			: :			
POW/CAPTURED MATERIAL REPORT	: 3	. 3	: 2	: 3	1.1	: 3	: 3	. 3	. 1	: 2				2-
PERSONNEL DAILY SUMMARY REPORT	: 3	: 3	. 2	3	1	: 3	. 2	: 2	. 2	: 2			: :	2
SENSITIVE ITEMS REPORT	: 3	3		3	: 1	. 1	. 7	: 3		•		•	•	
EMBEDDED TRAINING	3	. 3	3	: 3	. 2	: 3	: 3	3	3	: 3	: :		3	3

HARDWARE SOLUTION: HTU

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS ECHELON: PLT OPERATOR: PLT LDR AND PLT SGT TYPE UNIT: MI ARMOR UNITS

HIGH FAYOFF TASKS TO BE AUTOMATED	·		HARDV	VARE OF	PERATIO	NAL CAP	ABILITY							· ;
	;		DEV 1	TEM		•••••							•••••	
	;		PCU	V1/V2	OR	Cu (V1/)	V 2)				1			
	;		HTU						`}		:			,
•••••	OPER ON MOVE	DIS-	OPNGRAP	TEXT	TEXT	AUDIO/ :VISUAL		STORE	DIGITAL MAP BACKGRD	NAV	TGT		TOH SEN FREE DRW GRAPHICS	PROC DATA BUS
POSITION/NAVIGATION SYSTEMS INTERFACES	3	: 3	; 3 ; 2	; 2 ; 2	; 2	: 2 : 3	3	3	. 3	3	· 2	2	. 3	3 3-
GRAPHICS	: 3	: 3	3		1 1	, 2	1 3	3	: 3	3	2		. 3	3
REQUEST/ADJUST FS (CALL FOR FIRE)	: 3	. 3	. 3	: 3		; 2	. 3	. 3	3	3	:		. 2	. 3 .
FIRE SUPPORT FLANNING ELEMENTS	3	: 3	; 3	: 3	1 1	2	. 3	. 3	7	2			3	: 3
ALERTS (NBC.FAAD, RECON STATUS)	; 3	; 3	. 3	; 3	. :	, 3.	; 3	. 3	3	. 3		7	:	3
MBC 1	. 3	; 3	: 3	; 3	: 1	; 3	: 3	; 3	; 3	. 3	1	3	. 3	3 :
NBC 3	: 3	: 2	: 3	: 1	: 1	; 3	: 2	; 3	; 3	3	:		. 2	. 3
XBC 4	: 3	; 3	; 3	: 3	1.1	: 3		: 3		. 3	: 1	1 3	1	1.3
X20 5	; 3	; 3	: 3	; 1	1 1	. 3		3		3	:	. :	÷	. 3
EFFECTIVE DOWNWIND MESSAGE	: 3	: 3	: 3	' 1	::	: 3		: 3	, 3	. 3	:		. 4	. 3
DOSIMETRY REPORT	: 3	: 3	: 3	: 3	: :	: 3	-	. 3	:	:	•	3	3	:
STRIKEWARN	; 3	3	. 3	. :	::	; 3	: 2	3	3	3		•	2	3 .
THEMWARK	: 3	: 3	; 3	: 1	: :	; 3	2	3	3	3	•	•	2	. 3
SHELL/MORT/BOMREF	, 3	3	. 3	: 3	1 1	; 3	. 3	_	3	3			2	- 3
SECT REFORT	- 3	; 3	. 3	: 3	: :	. 3		1	3	1	:	2	3	-
SITUATION REPORT	. 3	: 3	. 3	. 3	1	. 3	. 3	3	. 3		÷	÷	3	7
CONTACT REPORT	: 3	. 3	: 3	· 3	1 1	: 3	. 3	3	3			3	•	3
BRIDGE REPORT	; 3	; 3	3	; 3	: :	' 3	3	3	3	3	•	•	•	3
MINEFIELD REFORT	; 3	: 3	; 3	: 3	1	; 3	. 3	• 3	3	3	•	•	:	3
OBSTACLE RÉPORT	: 3	3	3	: 3	. 2	3	. 3	. 3	3	3	•	•	3	3
ROUTE RECON REFORT	. 3	: 3	; 3	. 2	2	3	1	3	3	:	÷	÷	3	3
AXXXC STATUS REPORT	. 3	3	: 3	1 3	: 1	. 3	3	3	î.	•	•	•	•	3
POL STATUS REPORT	: 3	; 3	: 3	. 3	:	3	. 3	3	÷	•	•		•	3
AMMO REQUEST	. 3	. 3	:	3	• :	; 3	3	3	2	•	•	•	•	3
POL REQUEST	: 3	: 3	• •	. 3		3	. 3	3	·	•		•	•	3
EQUIPMENT STATUS REFORT	3	. 3	• :	3	:	3	3	3	•		•	•	•	?
BATTLE LOSS SPOT REPORT	. 3	: 3	. 3	: 3	: :	3			3	3	•	:	-	3
MEDICAL EVACUATION REQUEST	3	3	3	. 3	:	. 3	3	3	3	3			:	3
PERSONNEL BATTLE LOSS REPORT	. 3	. 3	:	3	:	3	3	3						•
WARNING LEDER	7 3	3	3	3	2	3	3	?	:	Ţ			:	:

CANDIDATE SOLUTIONS

TYPE UNIT: MI ARMOR UNITS ECHELON: PLT OPERATOR: PLT LDR AND PLT SGT

HIGH PAYOFF TASKS TO BE AUTOMATED			HARD	WARE O										
	;		DEV	ITEM										
			PCU	(V1/V2)) OR 1	CO (A1)			:					
			HTU						1		i			
	OPER ON MOVE	:DIS-	OPN GRAP					DATA	DIGITAL MAP BACKGRD	POS/ NAV DATA	TGT	BTLFLD SENSOR	TCH SEN FREE DRW GRAPHICS	
OPERATIONS ORDER	; ,	; 3	; , ,		:	;	: 3	;	: 3	;	: 1	. 1	:	: 3
FRAGMENTARY ORDER (FRAGO)	: 3	: 3	. 3	: 3	: 2	: 3	: 3	: 3	. 3	: 3	1	•	: 3	. 3
PLANS AND ANALYSIS AIDS	: 3	3	: 3	1 1		1 1	: 3	: 3	: 3	: 2			; 3	: 2
MIJI REPORT	: 3	. 3	: 2	: 3	: 1	: 3	: 3	: 3	1	: 1			i	: 1
POW/CAPTURED MATERIAL REPORT	: 3	; 3	: 3	; 3	: 1	: 3	; 3	: 3	2	. 2		1 1	:	; 2
PERSONNEL DAILY SUMMARY REPORT	: 3	; 3	: 3	: 3	. 1	; 3	. 2	; 2	2	. 2	:	. 1	· ·	2-
SENSITIVE ITEMS REPORT	: 3	: 3	: 1	: 3	: 1	: 3	: 3	; 3	; 1	:				: 1
EMBERDER TRAINING	; 3	: 3	. 3	; 3	: 2	: 3	: 3	: 3	. 3	- 3	: :		. 3	- 3

HARDWARE SOLUTION: DEV ITEM

- : NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: ARMOR UNITS MI ECHELON: PLT OPERATOR: SOT FLT LOR AND FLT SGT

HIGH PAYOFF TASKS TO BE AUTOMATED	:		HARD	VARE OF	PERATIO	NAL CAP	LEILITY	 ?		•••••	· • • • • • ·			·· ;
	:		DEV :	MET					• • • • • • • • •	• • • • • • •				
	:		PCU	(V1/V2)	OR 1	CU (VI/)	72)	•						:
	;		HTU			*			:		;			;
	OPER ON MOVE	:DIS-	GRAP	TEXT	TEXT	VISUAL	CESS		DIGITAL MAP BACKGRD	, NAV	TGT	SENSOR	TCH SEN FREE DRW GRAPHICS	
POSITION/NAVIGATION	: 3	; 3	;		: 2	2		; 3				: 2	3	3 ;
SYSTEMS INTERFACES	: 3	: 3	2	; 2				; 3	; 2	. 3	. 3	: 2		3- 1
GRAPHICS	; 3	: 3	: 3	1 1	: 1	: 2	; 3	: 3	. 3	3	: 2	3	· 3	: 3 :
REQUEST/ADJUST FS (CALL FOR FIRE)	; 3	; 3	; 3	; 3	: 1	: 2	: 3	: 3	; 3	; 3	. 1	1 1	: 2	: 3 :
FIRE SUPPORT PLANWING ELEMENTS	: 3	: 3	: 3	: 3	1:	: 2	. 3	; 3	; 3	: 2	: :	1 1	, 3	: 3 :
ALERTS (NBC.FAAD, RECON STATUS)	: 3	: 3	: 3	: 3	: 1	, 3	; 3	: 3		: •3		: 3		: 3 i
NEC :	: 3	: 3	: 3	; 3	1 1		. 3	3	1 3	: 3	. :	: 3	3	: 3 :
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EFFECTIVE DOWNWIND MESSAGE	; 3	3	: 3	1 1	;]	: 3	2	: 3	. 3	. 3			. 2	3 :
DOSIMETRY REPORT	; 3	: 3	: 3	: 3	1 1			: 3	3	3		: 3		3
STRIKEWARN	: 3	: 3	: 3	: 1	1	; 3	; 2	٠ 3	3	. 3		: :	2	. 3
CHEMWARN	; 3	: 3	: 3	1 1	: 1		; 2	, 3	. 3	: 3	:	;	. 2	3
SHELL/MORT/BOMREP	: 3	: 3	: 3	; 3	; 1	: 3	; 3		. 3		:		2	: 3
SPOT REPORT	; 3	; 3	3	: 3	: :	; 3	; 3	3	3 , 3	3	٨	2	3	3
SITUATION REPORT	; 3	: 3	; 3	: 3	1.1		: 3	: 3	. 3	. 3	; 2	2	3	3
CONTACT REPORT	: 3	٠ 3	; 3	: 3	1.1	; 3		. 3	3	3	3	3		3
BRIDGE REPORT	: 3	; 3	. 3	: 3	: 1	: 3	: 3	; 3	. 3	. 3	:			3
MINEFIELD REPORT	3	: 3	. 3	: 3	: 1			; 3	3	. 3	:		7	3
OBSTACLE REPORT	: 3	: 3	; 3	. 3		: 3	: 3	. 3	. 3	3	:	:	3	3
ROUTE RECON REPORT	; 3	: 3	. 3	. 3	: 4	; 3	. 3	3	3	3	-		3	3
AMMO STATUS REPORT	٠ 3	: 3	3	: 3		: 3		. 3	:		:			. 3
FOL STATUS REPORT	. 3	3	; 3	: 3	1.1	3	: 3	; 3						3
AMMO REQUEST	: 3	: 3	: 1	3		: 3	3	: 3						3
POL REQUEST	3	: 3	1	3	1 1	3	3	1		2				3
EQUIPMENT STATUS REPORT	. 3	- 3	1 1	3	1 1	3	. 3	3	_			-		3
BATTLE LOSS SPOT REPORT	3	; 3	3	. 3		. 3	3	<u>-</u>	3	3		į		3
MEDICAL EVACUATION REQUEST	3	3	. 3	3		. 3	- 3		7	÷	•	•	3	;
PERSONNEL BATTLE LOSS REPORT	3	. 3		: 3	•	. 3	3	-	~	-	:	•		•
FOW CAPTURED MATERIAL REFORT	3	. 3	2	3	:	. 3	3	3	:	:		•	•	:

		:5:	MTIF!	CATION	OF HA	RDWARE RE		ŒNTS					
TYPE UNIT: ARMOR UNITS MI				ANDIDA ECHEL					OPERATO	7ā: S	CT FLI	IIR ANI	. PLT SG
HIGH PAYOFF TASKS TO BE AUTOMATED	:		HARD	WARE 0	PERATI(NAL CAP	ABILITY	 !	• • • • • • • • • • • • • • • • • • • •				
	;		DEV	ITEM	•••••	·	• • • • • • •						
	;		PCU	(V1/V2) OR 5			1					
	HTU										!		
	ON MOVE	DIS-	GRAP	:TEXT	TEXT	VISUAL	CESS	:DATA	:DIGITAL :MAP :BACKGRD	: XAV :DATA	TGT	SENSOR	FREE DE
PLANS AND ANALYSIS AIDS	: 3 : 3 : 3 : 3 : 2 : 3	: 3 : 3 : 3 : 3 : 3 : 3	: 2 : 1 : 3 : 3 : 3 : 3 : 3	; 3 ; 3 ; 3 ; 3 ; 3	: 1 : 1 : 2 : 2 : 2 : 2 : 1	: 3 : 3 : 3 : 3 : 3	; 2 ; 3 ; 3 ; 3 ; 3 ; 3	; 2 ; 3 ; 3 ; 3 ; 3	; 3 ; 3 ; 3	: 2 : 1 : 3 : 3 : 3 : 3 : 3	1		3
HARDWARE SOLUTION: DEV ITEM											•		

- 3 ESSENTIAL CONTRIBUTION

OPERATOR: SCT PLT LDR AND PLT SGT

CANDIDATE SOLUTIONS ECHELON: PLT

OBM STIKU HOMRA: TIKU HYPT

AMMO REQUEST

POL REQUEST

WARNING DECER

EQUIPMENT STATUS REPORT
BATTLE LOSS SPOT REPORT
MEDICAL EVACUATION REQUEST

PERSONNEL BATTLE LOSS REPORT

HIGH PAYOFF TASKS TO BE AUTOMATED HARDWARE OPERATIONAL CAPABILITY PCU (V1/V2) OR TCU (V1/V2) HTU TOPER FACT FORM FEMT FERE FAUDIO/ PRO- STORE FDIGITAL POS/ FAUTO FETTELD FICE SEN FRACC. CON DISTIGRAP STEXT STEXT SVISUAL SCESS SDATA MAP STATE SENSOR FREE DAW SDATAS :MOVE : PLAY : HICS : MSG : MSG : ALERT : DATA : : BACKGRD : DATA : ACQ : INPUT : GRAFHICS : BUS
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 FOSITION/NAVIGATION SYSTEMS INTERFACES 3 · 3 · 1 · 1 · 2 3 3 · 2 · 1 · 1 · 3 REQUEST/ADJUST FS (CALL FOR FIRE) 3 1 3 1 ; 3 ; 3 , : 3 13 13 1 FIRE SUPPORT PLANNING ELEMENTS ; 3 3 : 3 : 3 ALERTS (NBC, FAAD, RECON STATUS) : 3 3 NBC 1 ; 3 5 3 : 3 NBC 3 1 2 1 3 1 1 1 1 1 3 1 2 1 3 1 XEC 4 . 2 : 3 : NEC 5 2 ; 3 ; EFFECTIVE DOWNWIND MESSAGE ; 3 3 : 3 DOSIMETRY REPORT . 3 3 3 1 : 3 1 : 1 : 3 2 : 3 : STRIKEWARN : 2 CHEXWARN SHELL/MORT/BOMBER 3 : 3 SPOT REPORT 3 3 SITUATION REPORT 3 3 1 3 1 CONTACT REPORT 3 : 3 : 3 ERIDGE REPORT 3 : 3 : MINEFIELD REPORT : 3 JESTACLE REFORT MOUTE RECON REFORT AMMO STATUS REPORT . 3 FOL STATUS REPORT : 3

3

3 2

3

3

CANDIDATE SOLUTIONS

TYPE UNIT: ARMOR UNITS M60 ECHELON: PLT OPERATOR: SOT PLT LUR AND FLT SOT

HIGH PAYOFF TASKS TO BE AUTOMATED	;	: HARDWARE OPERATIONAL CAPABILITY														
			DEV	ITEM												
	;		PCU	(V1/V2	!											
	;		HTU						.;		1					
	OPER	:ACT :DIS- :PLAY			FREE FEXT	AUDIO/ VISUAL		DATA	DIGITAL MAP	:POS/ :NAV :DATA	AUTO	BTLFLD SENSOR	TCH SEN FREE DRW			
	;	1	;	1	;	1	;	1	!	!	1	:	;	;		
OPERATIONS ORDER	: 2	: 3	: 3	: 3	: 2	: 3	: 3	: 3	: 3	: 3	: ;	1 1	; 3	: 3		
FRAGMENTARY ORDER (FRAGO)	: 3	: 3	: 3	; 3	: 2	3	: 3	; 3	3	; 3	: 1	1	: 3	: 3		
PLANS AND ANALYSIS AIDS	: 3	: 3	: 3	1 1	1 1	: 1	: 3	; 3	; 3	: 2	: :	: :	; 3	: 2		
MIJI REPORT	: 3	; 3	: 2	: 1	: 1	: 3	; 3	: 3	: :	: 1	1 1	1 1	; 1	1 1		
POW/CAPTURED MATERIAL REPORT	: 3	: 3	2	; 3	1 i	; 3	: 3	: 3	2	: 2	: 1	. i	1	: 2		
PERSONNEL DAILY SUMMARY REPORT	: 3	: 3	; 2	; 3	: 1	; 3	: 2	: 2	: 2	: 2	: 1	1 1	1	: 2-		
SENSITIVE ITEMS REPORT	: 3	; 3	: 1	: 3	: 1	; 3	3	: 3	: 1		1.1	; 1		: 1		
EMBEDDED TRAINING	: 3	: 3	, 3	٠ ٦	: 2	1 3	: 3	: 3	3	٠ ٦		. 1	. 3	. 3		

HARDWARE SOLUTION: HTU (2)

- i NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: MI ARMOR UNITS ECHELON: IND VEH OPERATOR: TANK COMMANDER HIGH PAYOFF TASKS TO BE AUTOMATED PCU (V1/V2) OR TCU (V1/V2) OPER (ACT COPN (FMT (FREE (AUDIO) (PEG- (STORE (DIGITAL (POS) AUTO (BTLFLD (TCH SEN (PROC) : MOVE : PLAY : HICS : MSG : MSG : ALERT : DATA : . . BACKGRD : DATA : ACQ : INPUT : GRAPHICS : BUS : 1 1 POSITION/NAVIGATION ; 3 ; 3 ; 2 ; 2 ; 2 3 1 3 2 . 3 SYSTEMS INTERFACES : 3 : 3 : GRAPHICS : 3 REQUEST/ADJUST FS (CALL FOR FIRE) : 3 : 3 : 3 : 3 : 3 FIRE SUPPORT PLANNING ELEMENTS : 3 ALERTS (NBC, FAAD, RECON STATUS) : 3 ; 3 3 3 XBC : NEC 3 : 3 NEC 4 : 3 NBC 5 ; 3 : 2 : 3 EFFECTIVE DOWNWIND MESSAGE : 3 : 3 . 3 DOSIMETRY REPORT : 3 2 3 : 3 STRIKEWARN CHEXWARN : 3 SHELL/MORT/BOMREP : 3 3 : 1 : 3 3 3 . 3 SPOT REPORT . 3 3 3 3 3 3 2 SITUATION REPORT ; 3 3 CONTACT REPORT
BRIDGE REPORT **.** 3 : 3 : 3 : 3 3 3 . 3 : 3 : 3 MINEFIELD REPORT OBSTACLE REPORT 3 3 3 2 . 3 BOUTE RECON REPORT 3 . 3 . 3 . 3 AXXX STATUS REPORT FOL STATUS REPORT AYMO REQUEST FOL REQUEST EQUIPMENT STATUS REPORT BATTLE LOSS SPOT REPORT MEDICAL EVACUATION REQUEST 3 3 3 . 3 FERSONNEL BATTLE LOSS REPORT FOW/CAPTURED MATERIAL REPORT 3 . 3

CANDIDATE SOLUTIONS

TYPE UNIT: MI ARMOR UNITS			•.	ECHEL)N: 13	HEV CR			OPERAT(DR:	TANK C	REGUANNO		
HIGH PAYOFF TASKS TO BE AUTOMATED			HARD	VARE OF		NAL CAP		=						
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		:DIS-		TEXT	TEXT	: VISUAL		DATA	:DIGITAL :MAP :BACKGRD	: NAV	TGT		TCH SEN FREE DRW GRAPHICS	
PERSONNEL DAILY SUMMARY REPORT	1 3	;	; ,	;	: 1	; 3	: : 2	: 2	; 2	;	1 ,	:	;	; ; 2
SENSITIVE ITEMS REPORT	; 3	3	; I	; 3	1 1	3	3	. 3	1	: 1	11	1 3 1 4	1 1	: 1
EMBEDDED TRAINING	: 3	; 3	: 3	: 3	; 2	. 3	: 3	1 3	; 3	: 3	1.1	1	: 3	; 3

HARDWARE SOLUTION: DEV ITEM

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

SECTION III. OPERATIONAL BENEFITS

OPERATIONAL BENEFITS

Type Units: Armor BN, Div Cav SQDN and ACR SQDN (M60A3/M901, M1 Series/BFYS, and better equipped units).

- 1. Summary Master Listing of Operational Benefits:
 - a. Unburdens the user.
- b. Performs those manual, time-consuming functions which do not require cognitive thinking.
- c. Reduces manual errors associated with communicating information over voice radio.
 - d. Provides timely, accurate information.
- e. Provides information to the user in readily usable formats (user can assimilate more information if properly packaged).
 - f. Allows the user to quickly pass graphic information.
 - g. Enhances unit synchronization to execute tactical operations.
 - h. Enhances unit command and control
- i. Promotes the rapid passing of accurate, combat service support information.
- j. Enhances combat support (CS) and combat service support (CSS) for the forward deployed forces.
 - k. Greatly reduces "stubby pencil" reporting.
 - 1. Provides the user with a near realtime tactical situational picture.
- m. Promotes rapid dissemination of FAAD alerts within the Close Combat Heavy Force.
 - n. Reduces the time it takes to make tactical decisions.
- o. Standardizes certain tactical operating procedures (reporting) and reinforces certain military skills (military graphics and later map-reading).
 - p. Assists in position location, orientation, and navigation.

- q. Provides some capability for identification of friend or foe.
- r. Assists in the performance of security (weapon system orientation and designation of sectors of fire).
 - s. Assists in prognostics and diagnostics.
 - t. Assists in planning, control, and distribution of direct fires.
 - u. Provides rapid packaging and passing of indirect fire requests.
 - v. Enhances operational planning.
 - w. Provides rapid dissemination of alerts and orders.
 - x. Promotes element synchronization to execute CSS operations.
- y. Provides for rapid collection, processing, and dissemination of combat, combat support, and combat service support information.
 - z. Reduces the time spent on FM voice radio communications
 - aa. Improves the content of Fil voice radio communications.
- bb. Provides an immediate storage, updating, overlay, and reproductive capability.
- cc. Provides access into other functional area automated systems for applicable intelligence information.
- dd. Provides a capability rapidly generate combat power at the right time and place to exploit enemy weaknesses.
 - ee. Increases kill percentages.

<u> YAZI DEGENERAZI BIRAKI KATURIA KATURI KATU</u>

- Operational Benefits by Key Bn/Sqdn Duty Positions:
 - a. BN/SQDN CDR: a,b,c,d,e,f,g,h,k,1,m,n,o,p,q,r,s,t,u,v,w,y,z.aa,dd,ee.
 - b. BN/SQDN S3: a,b,c,d,e,f,g,h,j,k,1,m,n,o,p,q,r,s,t,u,v,w,y,z,aa,dd,ee.
 - c. BN/SQDN S3 SEC: a,b,c,d,e,f,g,j,k,1,m,o,p,q,t,u,v,w,z,aa,bb,cc.
 - d. BN/SQDN S2: a,b,c,d,e,f,g,j,k,1,m,o,p,q,v,w,y,z,aa,bb,cc.
 - e. BN/SQDN S1: a,b,c,d,e,f,g,i,j,k,1,m,o,p,v,w,x,y,z,aa,bb.
 - f. BN/SQDN S4: a,b,c,d,e,f,g,i,j,k,1,m,o,p,v,w,x,y,z,aa,bb.

- g. HHC/HHT CDR: a,b,c,d,e,f,g,h,j,j,k,l,m,o,p,v,w,x,y,z,aa.
- h. BMO/SMO: a,b,c,d,e,f,g,i,j,k,m,o,p,s,v,w,x,y,z.
- i. SPT PLT LDR: a,b,c,d,e,f,g,h,i,j,k.m,o,p,v,w,x,y,z,aa.
- j MORTAR FDCs: a,b,c,d,e,f,g,h,k,1,m,n,o,p,q,s,u,v,w,y,z,aa.
- k. CO/TRP CDR: a,b,c,d,e,f,g,h,k,1,m,n,o,p,q,r,s,t,u,v,w,y,z,aa,dd,ee.
- 1. CO/TRP XO: a,b,c,d,e,f,g,h,i,k,1,m,n,o,p,q,r,s,t,u,v,w,y,z,aa,dd,ee.
- m. CO/TRP ISG: a,b,c,d,e,f,g,i,j,k,1,m,o,p,v,w,x,y,z,aa.
- n. TK PLT LDR: a,b,c,d,e,f,g,h,k,l,m,n,c,p,q,r,s,t,u,v,w,y,z,aa,ee.
- o. TK PLT SGT: a,b,c,d,e,f,g,h,i,k,1,m,n,o,p,q,r,s,t,u,v,w,y,z,aa,ee.
- p. SCT PLT LDR: a,b,c,d,e,f,g,h,i,k,1,m,n,o,p,q,r,s,t,u,v,w,y,z,aa,ee.
- p. SCT PLT SGT: a,b,c,d,e,f,g,h,i,k,l,m,n,o,p,q,r,s,t,u,v,w,y,z,aa,ee.
- r. ΤΚ WM TC: a,b,c,d,e,f,g,h,i,k,l,m,n,o,p,q,r,s,t,u,ν,w,y,z,aa,ee.
- s. INDIVIDUAL SCT TC: a,b,c,d,e,f,g,k,l m,n,o,p,q,r,s,t,u,w,y,z,aa,ee.
- t. INDIVIDUAL MORTAR TC: a,b,c,d,e,g,k,1 m,n,o,p,q,s,u,w,y,z,aa,ee.

SECTION IV. OPERATIONAL BURDENS

POTENTIAL OPERATIONAL BURDENS

Type Unit: Armor BN, Div Cav SQDN, ACR SQDN (M60A3/M901,M1 series/BFVS and better equipped units).

- 1. Summary Master list of Operational Burdens:
 - a. Inadequate system ruggedness.
- b. Poor design resulting in improper system configuration for tactical use.
- c. Possible training burden (TRADOC Schools, NET, unit, sustainment training).
- d. Potential combat service support burden for the system (personnel and materiel).
 - e. Failing to utilize the C2 automated system to its full potential.
 - f. System inability to withstand the combat environment.
- g. Space claim problems within the host vehicle (vehicle modifications may be required).
- 2. Potential Operational Burdens by BN/SQDN Key Duty Positions:
 - a. BN/SQDN CDR: a,b,c,e,f,g.
 - a. BN/SQDN S3: a,b,c,e,f,g.
 - c. BN/SQDN S3 SEC: a,b,c,e,f,g.
 - d. BN/SQDN S2: a,b,c,e,f,g.
 - e. BN/SQDN S1: a,b,c,e,f,g.
 - f. BN/SQDN S4: a,b,c,d,e,f,g.
 - g. HHC/HHT CDR: a,b,c,d,e,f,g.
 - h. BMO/SMO: a,b,c,d,e,f,g.
 - i. SPT PLT LDR: a,b,c,e,f,g.
 - j. Mortar FDCs: a,b,c,e,f,g.
 - k. CO/TRP CDR: a,b,c,e,f,g.
 - 1. CO/TRP XO: a,b,c,e,f,g.

- m. CO/TRP 1SG: a,b,c,e,f,g.
- n. TK PLT LDR: a,b,c,e,f,g.
- o. TK PLT SGT: a,b,c,e,f,g.
- p. SCT PLT LDR: a,b,c,e,f,g.
- q. SCT PLT SGT: a,b,c,e,f,g.
- r. TK WM TC: a,b,c,e,f,g.
- s. INDIVIDUAL SCT TC: a,b,c,e,f,g.
- t. INDIVIDUAL MORTAR CARRIER TC: a,b,c,e,f,g.

SECTION V. MFA MAA CORRECTIVE ACTION SUMMARY

MFA MAA CORRECTIVE ACTION SUMMARY

BDP DEF (1986)

SECTION V1. USER INTERFACE REQUIREMENTS

INFORMATION EXCHANGE

INTERFACE NAME: MCS (AR) - AFATADS

SYSTEM 1 SYSTEM 2 INTERFACE IOC: FY

IOC: FY TYPE B IOC FY 91 TYPE B SOURCE OF INTERFACE

OPFAC: FSE, FSG & FIST OPFAC: TOC. ALOC. & TC APPROVAL: FM71-2, FM19-95 (H)

FORCE LEVEL: FORCE LEVEL:

BN & CO BN/SQDM, CO/TEP, PLT

MESSAGE TITLE	: M2		-	 				INI:							: : CR			ANALYSIS SP		CHARA	ACTEES AVG	МАХ
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INFORMATION EXCHANGE

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PLT & SEC BM/SQDM, VEH

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SECTION VII. QUANTITY/DISTRIBUTION OF DEVICES

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4851		, 1	.: 0	: 0	(0):	0 (0};	0(0);	0 (0):	0 (0):	0 (9):	
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485L		TANK CO, CAV SQDN	; 9	: 00				0(0):	0 (0):	0 (0):			DEV ITEM - CO CDR
485L		•	. 0	. 0			0);		0):		0):	9 (0):			
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:535			, 0	. 0	(0)	0 (U;.	U (0);	υţ	v)	U (0).	υţ	0) '	
		SUBTOTALS:														
		-	1		0		0		27		0		0		495	
			2		0		0		0		0		J		Ĵ	
			3		0		0		Û		0		û		9	
		GRAND TOTALS:														

TOE	LEVEL	: TYPE OF UNIT		:	HUT		PCI	U	:		TCU	J	;	DEV	ITEM.	DESIGNATED	:
	a b	; ;	2-NG 3-AR	;	;	(♥)	1)	{ V :	2) ;	(V)	()	(₹2)		:	USER	:
	·†	†	† :	·†=· ¦	·; ;		- -		· ;		· <u>+</u> -		+		·†		-: :
17055J	: CORPS	: CAVALRY SQDN M60	; 0	;	0(0):	0 (0);	01	0):	0 (0);	ð (0):	0:	0):		;
17055J)	1	: 6	:	2(12):	0 (0):	3 (18):	0 (0)'	0 (0):	0 (0);	HTU - BN CDR &S3 OFF	
17055J	:	! !	: 0	;	0(0):	0 (0):	0 (0):	0 (0);	Û (0):	J (0);	PCU - S3 SEC.S2,S1/4	:
	;	• 1	1	;	:		;		1		:		:		!		,
17055J	i	: CAV TRP	; 0	1	0(0):	0 (0)!	0 (01:	0 (0):	0 (0):	0 (0):		i
17055J	•	1 }	: 18	i	2(36):	0 (0):	0 (0):	0 (0).	91	0):	0 (01:	HTU - TRP COR & XO	;
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17055E	1	: CAV SCT PLT	; 0		0(0):	0 (0);	0 (0):	Οi	0).	Û;	0):	0 (0):		ì
17055J	1		36	1	2(72):	0 (0):	0 (0);	0 (0):	0ι	0;	0 (0):	HTU - SOT PLT LDR	\$
17055J	i	t i	; 0	1	0(0):	0 (011	0 (0):	0 (0):	0 (0):	0 (0);	& SGT	;
	1	1 1	i i	,	;		:		1		÷		1		!		ï
17055J		: TANK CO	; 0		0(0):	0 (0);	0 (0):	0 (01	0 (01:	9 (0);		;
17055J	F	t t	; 6	1	2(12):			0 (0);	0 (0):	0 (0;	0 (0):	HTU - CO CDR & XO	
170553	•		; 0	i	0(0):	0 (0);	0 (0):	0 (0).	0 :	0).	0 (G):		*
		SUBTOTALS:															
			1		0		Ú		0		0		0		0		
			2		132		0		18		0		0		¢		
			3		0		0		0		0		0		0		
		GRAND TOTALS:			132		٥		: A		3		٥		.)		

TOE	: LEYEL	TYPE OF UNIT	; TAA 9: ; COMPO ; 1-AA ; 2-NG		HET			PCU	!	;		TCU			DEV	ITEM.	DESIGNATED
	; ;	, , ,	; 2-MG ; 3-AR	;		: . • • • • • •	(V)	.) :	(V2	() ((₹)	1 :	(V2	3) :		: :	USER
17207J	; 3DE	: ARM CAV TRP (MI)	3		0 (0):	0:	01:	01	01:	0 (31:	0 () () :	•	8.	DEV ITEM - TRP CO
17207J		I SAUGE COST AND MILE	0	;	0 (0):	0 (0):	0(0);	٥ı	0):)(0):	0 (0;:	
17207J	•	: 1 ,	; 0	1	0 (0):	0(0);	0 (0);	0 (C);	01	0);: :	0 (0;:	
17207J 17207J	;	SCT PLT (M3)	1 6	•	01	9):) () (0):	10	0);	0 t 0 t	0)	10	9):	2(0:	12;;	DEV ITEM - SCT PLT LDB & SGT
172075	· · · · · · · · · · · · · · · · · · ·	;	; 0	:	0(0):	0(0) : 0) :) () (0;: 0}:	0 (01; 0);	ij: 0;	0; 0;;		0).	223 & 201
.72073		: . TANK PLT (M1)	; ; 6	;	0 (0);	0 (0);	0 (0);	0 ;	o,) ();;	4:	: 24!;	DEV ITEM - PLT LDR
.7207J .7207J		:	: 0	;	0 (0 (0): 0):	0(0); 0);	01	0) ' 0; .	0(0): 0):	0 t	0):: 0;:		0; 0;;	
		SUBTOTALS:	, -	•	- (•,	• (-,,	- 1	-,	• (• •	•,		-,.	
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			3			0		0.		0		Q Q		0		3	
		GRAND TOTALS:				С		0		0		0		0		2	

TOE	LEVEL	TYPE OF UNIT	: TAA 9 : COMP(nr.	;		PCU	I	:		TCT		:	DE7	ITEX:	DESIGNATED	
	•	;	: 2-NG : 3-AR	;		:	(V)) ;	(V2	:)	: ℧`	.)	. V2	-			USER	:
	;		;			:		!				:				· · · · · · · · · · · · · · · · · · ·		
173871	BDE	ARM CAV TRP (M1/M3)	: 0	;	0 (0;:	0:	91.	0 (0)	0.	3 .	31	0.1	Û	(i)		
17397L 17387L	•	;	. 3	1	0(01: 0):	0 (0 (0);	0 (0). 0).	0 (0); 0);	0; 0;	0);	- '	6): 0):		TRP 00 . X <mark>0</mark>
173871	1	SCOUT PLT (M3)	: 0	;	0(0);	0 (0):	0 ())).	0 (0).	0 (0)	0 (0)		,
173871	:	4 3	: 6	:	0 (0):	0 (0):	0 (01:	0 (0)	0 (0);	2 (12)	DEV ITEM -	SOT PLT
173871			; 0	i	0 (0;:	0 (0):	0 !	0);	Ú (0;) (0;.	0 (01	LDR & SGT	•
173871	:	TANK PLT (MI)	: 0	:	0 (01.	0 (0):	0;	0)	0 (0).	0;	0)	0!	2;		
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		SUBTOTALS:																
			1			0		Û		Û		0		0		0		
			2 3			0		0		0 0		3		9		4 2		
		GRAND TOTALS:				0		ŋ		o		0		0		42		

GTANTITY (ISTBIBUTION OF CENIUS)

TOE		TYPE OF UNIT	COM				PCU						1	DEV ITEM		DESIGNATED	
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173271	· BDE	: ARM CAV TRP (M60)	;	0 .	0 -	0)	0 ;	0)	÷	0.1	Ç.	Э,	· ; .		ð.,		
17387L		1		4,	2 -	8):	0	0;	0	0;	9.	5 . 2 4	•	2.5	ē.		HTT - TAP DIA 4 XC
73871	:	1				0):											
		• •	4														
73871		: SCT PLT (M901)	•	0 :	0 (0):	0 (0;:	0 (0::	91	ð))(3)	0:	4:	
.73871	:	•	;	8 ;	2 (16):	0 (0;	0 (0;.	ŷ.	0;	0	Ĵ	Ċ	ý.	HTT - SOT PLT LOR
173371	!		:	ů ·	0 :	01.	0 (Û,	0 (9	; :	9:	Ç	Ĵ	5	÷	% 33T
		SUBTOTALS:															
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		GRAND TOTALS:				24		;))		ō.			

APPENDIX I

ENGINEER SCHOOL STUDY DELIVERABLES

SECTION I. TASK/FUNCTIONS TO BE AUTOMATED

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: COMBAT ENGR ECHELON: BN

DD10D1MV	MACY (FUNCETON	E0.20			
PRIURITY	TASK/FUNCTION	FORCE	LEVEL	MFA	UNIQUE
?	OBSTACLE REPORT		Х		
2	MINEFIELD REPORT		Х		
3	RIVER CROSSING REPORT		X		
4	ENEMY OBSTACLE REPORT		Х		
5	SEND/REC OPERATIONS ORDER		X		
6	RECON REP - ALL TYPES				Х
7	LOGISTIC SUPPORT REPORT		X		
8	EQUIPMENT STATUS (2406)		X		
9	SUBMIT FRIENDLY LOC/STATUS REPORT		X		
10	SCATTERABLE MINEFIELD REPORT		X		
11	ZUME-BELT PROGRESS		Х		
12	NBC REPORT		X		
13	SPOT REPORT		X		
	DAMAGE REPORT		X		
15	REC ENEMY INFO FROM HIGHER		X		
16	TRANSFER OF AUTHORITY MSG		X		
17	DENIAL OPNS REPORT		X		
18	SITUATION REPORT		X		
19	DEMO EXECUTION REPORT				X
20	ENGR MISSION REPORT				X
21	CHANGE IN ENGR MISSION REPORT				X
2.3	ACTIVITY LIST W/ RESOURCES		Х		
23	ACTIVITY STATUS		X		
24	ACTIVITY SCHEDULE		Х		
25	CRITICAL EQUIPMENT STATUS				X
26	GENERAL REPORT		X		
27	CONSTRUCTION DESIGN				X

TYPE UNIT: COMBAT ENGR ECHELON: CO PRIORITY TASK/FUNCTION FORCE LEVEL MFA UNIQUE 1 OBSTACLE REPORT X 2 MINEFIELD REPORT X 3 RIVER CROSSING REPORT X 4 ENEMY OBSTACLE REPORT X 5 SEND/REC OPERATIONS ORDER X 6 RECON REPORT - ALL TYPES X 7 LOGISTIC SUPPORT REPORT X 8 EQUIPMENT STATUS (2406) X 9 SUBMIT FRIENDLY LOC/STATUS REP X 10 SCATTERABEL MINEFIELD REP X 11 ZONE-BELT PROGRESS X 12 NBC REPORT X 13 SPOT REPORT X 14 DAMAGE REPORT X 15 REC EMEMY INFO FORM HIGHER X 16 TRANSFER OF AUTHORITY MSG X 17 DENIAL OPNS REPORT X 18 SITUATION REPORT X 18 SITUATION REPORT X 19 DEMO EXECUTION REPORT X 20 ENGR MISSION REP X 21 CHANGE IN ENGR MISSION REP 22 ACTUALTY LIST M/PRESOUNDES		SINGINGINGINGINGINGINGINGINGINGINGINGINGI		
PRIORITY TASK/FUNCTION FORCE LEVEL MFA UNIQUE 1 OBSTACLE REPORT				
OBSTACLE REPORT	TYPE UNIT	COMBAT ENGR	ECHELON: CO	
2 MINEFIELD REPORT X 3 RIVER CROSSING REPORT X 4 ENEMY OBSTACLE REPORT X 5 SEND/REC OPERATIONS ORDER X 6 RECON REPORT - ALL TYPES X 7 LOGISTIC SUPPORT REPORT X 8 EQUIPMENT STATUS (2406) X 9 SUBMIT FRIENDLY LOC/STATUS REP X 10 SCATTERABEL MINEFIELD REP X 11 ZONE-BELT PROGRESS X 12 NBC REPORT X 13 SPOT REPORT X 14 DAMAGE REPORT X 15 REC ENEMY INFO FORM HIGHER X 16 TRANSFER OF AUTHORITY MSG X 17 DENIAL OPNS REPORT X 18 SITUATION REPORT X 19 DEMO EXECUTION REPORT X 20 ENGR MISSION REP X 21 CHANGE IN ENGR MISSION REP X	PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
23 ACTIVITY STATUS X 24 ACTIVITY SCHEDULE X 25 CRITICAL EQUIPMENT STATUS X 26 GENERAL REPORT X 27 CONSTRUCTION DESIGN X	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	MINEFIELD REPORT RIVER CROSSING REPORT ENEMY OBSTACLE REPORT SEND/REC OPERATIONS ORDER RECON REPORT - ALL TYPES LOGISTIC SUPPORT REPORT EQUIPMENT STATUS (2406) SUBMIT FRIENDLY LOC/STATUS REP SCATTERABEL MINEFIELD REP ZONE-BELT PROGRESS NBC REPORT SPOT REPORT DAMAGE REPORT REC ENEMY INFO FORM HIGHER TRANSFER OF AUTHORITY MSG DENIAL OPNS REPORT SITUATION REPORT DEMO EXECUTION REPORT ENGR MISSION REP CHANGE IN ENGR MISSION REP ACTIVITY LIST W/RESOURCES ACTIVITY SCHEDULE CRITICAL EQUIPMENT STATUS GENERAL REPORT	X X X X X X X X X X X X X X X X X X X	X X X
		I-I-	3	

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT	: COMBAT ENGR	ECHELON: PLT	
PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
1	OBSTACLE REPORT	Х	
2	MINEFIELD REPORT	X	
3	RECON REP - ALL TYPES		X
4	ENEMY OBSTACLE REPORT	Х	
5	RIVER CROSSING REPORT	X	
6	SPOT REPORT	X	
7	NBC REPORT	X	
8	SEND/REC OPERATIONS ORDER	X	
9	LOGISTIC SUPPORT REPORT	X	
10	EQUPMENT STATUS (2406)	X	
11	SUBMIT FRIENDLY LOC/STATUS REPORT	X	
12	DAMAGE REPORT	X	
13	TRANSFER OF AUTHORITY MSG	X	
14	SITUATION REPORT	X	
15	DEMO EXECUTION REPORT		X
16	GENERAL REPORT	X	

SECTION II. IDENTIFICATION OF HARDWARE REQUIREMENTS

CANDIDATE SOLUTIONS

TYPE UNIT: COMBAT ENGR ECHELON: BN

HIGH PAYOFF TASKS TO BE AUTOMATED	;		HARD	WARE O	PERATI(NAL CAP	TILLEA	Y						i
	!		DEV	ITEM						•••••				;
			PCU	(V1/V2)	OR 7	CH (A1)	 V2}				f •			;
	;		HTU						• ;		:			;
***************************************	i •		HTU						; . .		·			
	ON	:DIS-	GRAP	TEXT	TEXT	VISUAL	CESS	DATA:	YAP	NAV	TGT	SENSOR	TCH SEN FREE DRW GRAPHICS	DATA
OBSTACLE REPORT	2	. 2	; 3	: 3				. 7	. 7	3	1	: 1	; 3	: 1
WINEELELD DEDUDT	, ,	: 2	: 3	: 3	; 2	. 2	: 2	: 3	: 3	. 3	: :	: :	: 3	1 1-
RIVER CROSSING REPORT	; 2	2	3	: 3	; 2	; 2	: 3	; 3	; 3	: 3	1 1	: :	; 3	: 1
ENEMY OBSTACLE REPORT	; 2	; 2	; 3	: 3	; 2	; 2	: 2	; 3	3 3 1 3 1 2 1 1	: 3	; 1	. 1	3 3 2 3 2	1.1
SEND/REC OPERATIONS ORDER	: 2	; 2	; 2	: 3	: 2	: 2	1.1	; 3	; 2	: 2	: 1	: 1	; 3	: 1
ENEMY OBSTACLE REPORT SEND/REC OPERATIONS ORDER RECON REP - ALL TYPES LOGISTIC SUPPORT REPORT	; 2 ; 2 ; 2	: 2	: 3	: 3	: 2	: 2	: 2	: 3	3	; 3	: 1	; 1	: 2	: 1
LOGISTIC SUPPORT REPORT	; 2	: 2	1 3	3	; 2	; 2	: 3	: 3	1	:	: 1	: :	1	: i
EQUIPMENT STATUS (2406)	: 2	: 2	: 2	: 3	: 2	: 1	; 3	: 3	1 1	. :	: 1	: 1	: 1	1.1
SUBMIT FRIENDLY LOC/STATUS REPORT	; 2	: 2	; 3	; 3	: 2	: 2	1.1	: 3	; 3	: 3	: :	: 1	' 2	: 1
SCATTERABLE MINEFIELD REPORT	: 2	; 2	: 3	; 3	; 2	: 2	: 1	: 3	: 3	: 3	1.1	: :	: 3	1
ZONE-BELT PROGRESS	: 2	: 2	: 3	: 3	: 2	1 1	: 2	3	: 3	: 2		1 1	. 3	1.1
DAMAGE REPORT	: 2	2	: 2	: 3	: 2	: 1	; ;	: 3	: 2	: 1	1.1	1 1	. 2	1 1
REC ENEMY INFO FROM HIGHER	: 2	: 2	: 1	: 3	; 2	; 2	1 1	; 2	. 2	2	; ;	:	: 2	1.1
TRANSFER OF AUTHORITY MSG	2	: 2	; l	: 3	: 2	: 1	; 1	: 2	: 1	1 1	1.1	: 1	; 3	. 1
DENIAL OPNS REPORT	; 2	; 2	: 1	; 3	: 2	: 1	; 1	: 2	; 2	. 2	1 1		. 2	1.1
SITUATION REPORT	: 2	2	2	: 3	: 2	; 2	: 1	. 3	2	. 3	. :	. :	2	
DEMO EXECUTION REPORT	: 2	: 2	1 1	; 3	: 2	1 1		: 2	1 1	; ;	1 :		2	1.1
ENGR MISSION REPORT	; 2	; 2	2	: 3	: 2	1 1	: 1	. 2	: 2	: 2	1.1	: :	: 2	. 1
CHANGE IN ENGR MISSION REPORT	; 2	: 2	; 2	; 3	: 2	: 1	: :	1 2	2	1 2	. 1	. 1	2	: :
ACTIVITY LIST W/ RESOURCES	: 1	; 2	: 1	: 3	: 2	; 1	: 2	; 3	:		; ;	: :	1	. :
ACTIVITY STATUS	: 2	: 2	1 1	: 3	: 2	1 1	; 2	. 3	,		::	: 1	: :	: 1
RECON REP - ALL TYPES LOGISTIC SUPPORT REPORT EQUIPMENT STATUS (2406) SUBMIT FRIENDLY LOC/STATUS REPORT SCATTERABLE MINEFIELD REPORT ZONE-BELT PROGRESS DAMAGE REPORT REC ENEMY INFO FROM HIGHER TRANSFER OF AUTHORITY MSG DENIAL OPNS REPORT SITUATION REPORT DEMO EXECUTION REPORT ENGR MISSION REPORT CHANGE IN ENGR MISSION REPORT ACTIVITY LIST W/ RESOURCES ACTIVITY SCHEDULE CRIMICAL FOULPMENT STATUS	: 2	: 2	: 1	: 3	: 2	1 1	· 2	. 3			. :	: :		
CRITICAL EQUIPMENT STATUS NBC REPORT SPOT REPORT GENERAL REPORT CONSTRUCTION DESIGN	: 2	2	: 1	: 3	: 2		: 2	. 3	•	. 1	1	: :	3 3	
NBC REPORT	: 2	: 2	: 1	: 3	: 2	: 2	: 1	: 2	1	3	. 1	1 1	. 3	
SPOT REPORT	2	1 2	; 1	; 3	: 2	: 2	: :	: 2	. :	: 3		· i	. 3	:::
GENERAL REPORT	: 1	; 2	1 1	: 2	: 3	: 1	: 1	: 3		:	. :	:		
CONSTRUCTION DESIGN	: 1	: 2	: 2	: 2	: 3	1 1	2	3		1	:	: :	2	

HARDWARE SOLUTION: HTU

RATING SCALE:

1 - NO CONTRIBUTION

2 - MODERATE CONTRIBUTION

3 - ESSENTIAL CONTRIBUTION I-II-2

		ID	ENTIFI	CATION	OF HA	RDWARE R	EQUIRE	MENTS						
						UTIONS	-							
TYPE UNIT: COMBAT ENGR						N M			OPERATO)R: !	3N 83			
HIGH PAYOFY TASKS TO BE AUTOMATED	:		HARD'	WARE O	PERATI	ONAL CAP	ABILIT	 Y	·				,	
			DEV :	ITEN									•••••	
	;										i			
	; ;		PCU	(V1/V2.) OK :	TCU (VI/	₹2) 		•:		1			
	;		HTU						;					
		ACT	OPN	FMT	FREE	:AUDIO/	PRO-	STORE					TCH SEN	
	:OM	:DIS-	GRAP	TEXT	TEXT	:VISUAL	CESS	DATA	MAP	: NAV	TGT	SENSOR	FREE DEW	DATA
OBSTACLE REPORT	1	:		;	1) L	†	;	!	:	;	114101	(MAINIVO	1505
MINEFIELD REPORT	: 2	7	, ,	; 3	: 2	: 2		3		: 3	1.1	1	3	1 1
RIVER CROSSING REPORT	. 4	1 6			1 4	1 2		; 3	: 3	: 3	1 1	1	; 3	1
ENEMY OBSTACLE REPORT	i 2				: 2			3	; 3	; 3	1 1	1	; 3	1 1
	; 2	: 2	; 3		; 2	: 2		1 3	; 3	3	; 1	: 1	: 2	: 1
SEND/REC OPERATIONS ORDER	; 2	; 2	; 2		2	: 2		: 3	1 2	: 2	: 1	1 1	; 3	1 1
RECOM REP - ALL TYPES	2	2	; 3		; 2		; 2	: 3	3	: 2	: 1	; 1 ; 1	2	: 1
LOGISTIC SUPPORT REPORT	: 2	1 2	3	: 3	: 2	1 2	; 3	; 3	1	1 1	: I	; 1	: 1	: 1
EQUIPMENT STATUS (2406)	: 2	2 .						3		: 1		1 1		7.1
SUBMIT FRIENDLY LOC/STATUS REPORT		2		: 3		: 2		: 3	: 3	: 3	1 1	: 1	. 2	1.1
SCATTERABLE MINEFIELD REPORT		: 2		-		: 2	1 1	3		3		1		1 1
ZONE-BELT PROGRESS	; 2	; 2	1 3			; 1	: 2	3	: 3		1 1	: 1		: 1
NBC REPORT	: 2	: 2	: !		: 2	: 2	1 1	: 2	: :	: 3	: 1	1 1		: 1
SPOT REPORT	; 2	: 2	; 1		; 2	2	1 1	: 2	1	3	1.1	1 1		1 1
DAMAGE REPORT	: 2	; 2	2		_	1 1	1 1	: 3	2	1 1	;]	: 1		::
REC ENEMY INFO FROM HIGHER	: 2	2	1 1		; 2		: 1	2	: 2	2				: :
TRANSFER OF AUTHORITY MSG	; 2	: 2	1 1				1 1	: 2	1			1 1		; !
DENIAL OPNS REPORT	: 2	; 2				1 1		2	2	1 1	1.1	1 1		1 1
SITUATION REPORT	; 2	2	1	: 3		; 2	1 1	3	2	3	1 1	1 1		1
DEMO EXECUTION REPORT	: 2	2	1 1	3			1 1	2		1	1 1	1		1 1
ENGR MISSION REPORT	; 2	: 2	; 2			1 1	1.1	2	2	2	: :	1 1		1
CHANGE IN ENGR MISSION REPORT	: 2	2	2			1		: 2	; 2	. 2	1 1	•	. 2	. :
ACTIVITY LIST W/ RESOURCES	: 1	2	1				2	; 3	. 1	. 1	1.1	•		:
ACTIVITY STATUS	2	2	1					: 3	: 1	1	1	:		:
ACTIVITY SCHEDULE	: 2	2	; i				: 2	: 3	1		1 1	. 1		. 1
ATTRIAL PARTEMENT ATTENT														
CRITICAL EQUIPMENT STATUS CONSTRUCTION DESIGN	; 2	: 2	: 1 : 2	3	: 2		; 2	: 3	1	1 1	: :			1 1

HARDWARE SOLUTION: TCU(VI)

posterod morescedentalismosophem coccedentalismosophem coccedentalismosophem coccessor

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: COMBAT ENGR ECHELON: BN OPERATOR: BN S2 HIGH PAYOFF TASKS TO BE AUTOMATED HARDWARE OPERATIONAL CAPABILITY PCU (V1/V2) OR TCU (V1/V2) :OPER (ACT : OPN :FMT :FREE :AUDIO/ :PRO- :STORE :DIGITAL :POS/ :AUTO :BTLFLD :TCH SEN :PROC: ON DIS- GRAP TEXT TEXT VISUAL CESS DATA MAP NAV TGT SENSOR FREE DRW DATA: : MOVE : PLAY : HICS : MSG : MSG : ALERT : DATA : (BACKGRD : DATA : ACQ : INPUT : GRAPHICS : BUS : 12 12 3 3 2 2 OBSTACLE REPORT 2 : 3 : ; 2 ; 2 ; 3 ; 3 ; 2 ; 2 MINEFIELD REPORT 12 12 13 13 12 12 RIVER CROSSING REPORT ENEMY OBSTACLE REPORT : 2 : 2 : 3 : 3 : 2 : 2 : 2 SEND/REC OPERATIONS ORDER 12 12 12 13 12 12 RECON REP - ALL TYPES : 2 LOGISTIC SUPPORT REPORT ; 2 EQUIPMENT STATUS (2406) 3 : 2 SUBMIT FRIENDLY LOC/STATUS REPORT : 2 SCATTERABLE MINEFIELD REPORT : 2 : 3 ZONE-BELT PROGRESS : 2 : 2 : 3 : 3 : 2 : 1 : 2 NBC REPORT SPOT REPORT DAMAGE REPORT : 2 REC ENEMY INFO FROM HIGHER : 2 TRANSFER OF AUTHORITY MSG : 2 DENIAL OPNS REPORT : 2 SITUATION REPORT ; 2 DEMO EXECUTION REPORT 12 12 11 3 12 11 ENGR MISSION REPORT CHANGE IN ENGR MISSION REPORT : 2 1 1 ACTIVITY LIST W/ RESOURCES ACTIVITY STATUS

HARDWARE SOLUTION: PCU(VI)

CRITICAL EQUIPMENT STATUS

CONSTRUCTION DESIGN

: 2

; 2

ACTIVITY SCHEDULE

GENERAL REPORT

RATING SCALE:

2 1 1 3 2 1 1

- : NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

HIGH PAYOFF TASKS TO BE AUTOMATED			HARD DEV		PERATI(NAL CAP	ARTI.ITY							,
			DEV	PCM				ı						
				LISM		•								
	,		PCU	(V1/V2)	OR 1	CU (V1/				•••••	•			i
	;		HTU											;
	OPER ON MOVE	:DIS-	GRAP	:TEXT	TEXT	:VISUAL	CESS DATA	: DATA	: MAP : BACKGRD	: NAV	TGT	SENSOR	TCH SEN FREE DRW GRAPHICS	DATA
OBSTACLE REPORT	: 2	;	;	;		: 3	; ; 3	: 3		; ; 3	1 1	: 1	; 3	1 1
MINEFIELD REPORT	; 2	: 3	: 3				: 3	: 3		; 3	1.1	1 1	: 3	: 1
RIVER CROSSING REPORT	: 2	: 3	1 3	: 3				: 3			: 1	: 1	; 3	: 17
ENEMY OBSTACLE REPORT	: 2	: 3	: 3			; 3			; 3		: 1		; 3	1.1
SEND/REC OPERATIONS ORDER	: 2	: 3	: 3			: 2			; 2	: 2	1.1		: 2	: 1
RECON REPORT - ALL TYPES	: 2	; 3	; 3	: 3					: 3	: 3	: 1	: 1	; 3	: 1
LOGISTIC SUPPORT REPORT	; 2	3	1 1	: . 3		: 3				1	; 1	: 1	: 1	: 1
EQUIPMENT STATUS (2406)	: 2	: 3	1 1	: 3			: 3	: 3	: 1	: 1	1.1	: 1	: 1	: 1
SUBMIT FRIENDLY LOC/STATUS REP	: 2	: 3 -	: 3	: 3			: 2	: 3	: 3	; 3	: 1	1 1	2	: 1
SCATTERABEL MINEFIELD REP	; 2	3	3	: 3		: 2		: 3		: 3	: 1	1 1	: 3	: 1
ZONE-BELT PROGRESS	; 2	: 3	: 3	: 3		: 2		: 3		: 2	: 1	; 1	: 3	: 1 :
DAMAGE REPORT	: 2	: 3	: 2	; 3	: 2			: 3		: 2	: 1	1 1	: 2	: 1
REC ENEMY INFO FORM HIGHER	: 2	: 3	1 1	: 3			: 2	: 2	2	; 2	1 1	1 1	2	: 1 :
TRANSFER OF AUTHORITY MSG	; 2	: 3	: 3	: 3	: 2			: 2		; 3	: 1	1 1	3	: 1
DENIAL OPNS REPORT	: 2	: 3	; 2	: 3	: 2	: 2	: 2	; 2		: 2	1.1	1 1	; 2	: 1
SITUATION REPORT	: 2	: 3	: 2	3	: 2	; 3	: 2	: 3		: 3	1.1	: 1	: 2	1.1
DEMO EXECUTION REPORT	: 2	3	1 1	3	: 2	2	: 2	: 2	; 2	1 2	; :		: 2	1.1
ENGR MISSION REP	; 2	: 3	: 2		. 2	: 2	: 2	; 2		: 2	. 1	. 1	: 2	: 1
CHANGE IN ENGR MISSION REP	; 2	: 3	: 2	: 3	: 2	: 2	: 2	: 2	: 2	1 2	: 1		: 2	
ACTIVITY LIST W/RESOURCES	; 2	; 3	: 1	; 3	: 2	: 2	; 3	: 3	: :		1	1 1		
ACTIVITY STATUS	: 2	: 3	1 1	: 3			: 3	; 3	: 1		1 1	: :	. 1	1
ACTIVITY SCHEDULE	; 2	: 3	: 1	: 3	: 2	2	: 3	3	1 1	1	;	: 1	. 1	1 .
CRITICAL EQUIPMENT STATUS	: 2	: 3	1 1	: 3	2	: 2	: 3	: 3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	•	1	: :	1 1	
NBC REPORT	: 2	: 3	: 3	: 3	; 2	; 3	: 3	: 2	3	. 3	- 1	. 2	. 3	
SPOT REPORT	: 2	: 3	; 3	; 3	: 2	: 3	; 3	: 2	, 3	. 3	: 1		3	, .
GENERAL REPORT	; 2	; 3	: 1	; 2	: 3	: 2		: 3	1	. 1	1 1	1 1	: 1	:::
CONSTRUCTION DESIGN	: 2	; 3	: 2	: 2	; 3	. 1	; 3	: 3	,				: 2	

HARDWARE SOLUTION: PCU(VI)

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: COMBAT ENGR			•	ECHEL(ON: PI	LT			OPERATO)R: 1	PLT LE	ADER		
HIGH PAYOFF TASKS TO BE AUTOMATED	!		HARD	WARE OF	PERATIO	ONAL CAP	ABILIT	·					• • • • • • • • • • • • • • • • • • • •	
	;		DEV	ITEM										
	;		PCU	(V1/V2)	OR '	TCU (V1/	V 2)				:			
	;		HTU	• • • • • • •					; ;		:			
	OPER ON MOVE	:DIS-	OPN GRAP	TEXT	TEXT	:VISUAL		ATAC	:DIGITAL :MAP :BACKGRD	NAV	TGT		TCH SEN FREE DRW GRAPHICS	
OBSTACLE REPORT	; , ,	;	; 3	;	: 3	; ; 2	: 3	; 3	; 3	;	;	. 1		;
MINEFIELD REPORT	: 3	. 3	, 3	. 3	: 3	: 2	: 3	; 3	: 3	. 3	1	1	. 3	
RECON REP - ALL TYPES	: 3	: 3	: 3	1 3	: 3	2	; 3	: 2	: 3	. 3	•		: 3	1
ENEMY OBSTACLE REPORT	: 3	: 3	. 3	: 3	. 3	: 2	; 3	: 2	: 3	. 3			. 2	1
BIVER CROSSING REPORT	: 3	: 3	: 3	: 3	. 3	1 2	; 3	. 2	: 3	: 3			: 3	: 1
SPOT REPORT	: 3	: 3	: 2	: 3	: 3	; 2	; 3	: 2	: 2	: 3	: 1	1 1	; 2	: 1
NBC REPORT	: 3	: 3	3	: 3	: 3	: 3	: 3	: 2	; 3	: 3	1	1	. 3	
SEND/REC OPERATIONS ORDER	; 3	: 3	; 2	3	. 3	2	; 3	; 2	2	2		1 1	, 2	1 1
LOGISTIC SUPPORT REPORT	; 3	: 3	: 1	3	3	1 2	: 3	2		: 1		: 1		: 1
EQUPMENT STATUS (2406)	; 3	; 3	: 1	; 3	; 3	: 2	: 3	: 2	: :		, 1	; ;	1 1	1 1
SUBMIT FRIENDLY LOC/STATUS REPORT	; 3	: 3	; 3	; 3	; 3	; 2	: 3	; 2	; 3	3	1		3	1
DAMAGE REPORT	: 3	; 3	: 2	; 3	: 3	: 2	: 3	; 2	. 2	2	: 1		. 2	
TRANSFER OF AUTHORITY MSG	: 3	: 3	: 2	; 3	: 3	; 3	: 3	: 2	: 3	3	, ,	:	2	: 1
SITUATION REPORT	; 3	; 3	: 2	: 3	: 3	. 2	; 3	; 2	. 2	2	1:1			:
DEMO EXECUTION REPORT	; 3	: 3	: 2	: 3	: 3	: 2	: 3	: 2	2	: 2	:	1		
GENERAL REPORT	: 3	: 3	: 2	: 3	: 3	2	: 3	; 2	, 2	. 2	:			;

HARDWARE SOLUTION: HTU

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

SECTION III. OPERATIONAL BENEFITS

OPERATIONAL BENEFITS ENGINEER UNITS

- 1. Operational benefits gained from providing automation.
- a. The present manual system for acquiring, analyzing, processing and reporting critical engineer data is tedious, time consuming and manpower intensive due to the use of line reports sent via FM radios or courier. The lack of accurate engineer information (i.e., status of units, personnel, equipment, engineer supplies (Class IV and V), extent of damage to facilities and status of repair, status of sustainment engineering activities, and the status of enemy and friendly obstacles undermines the ability of engineer and force level staffs to provide engineer and force level commanders the information needed to execute their concept of operation, react inside the enemy's decision, cycle, and make use of the combat multiplier effect that engineers provide the maneuver force. The manual tracking of critical information and resources creates an unacceptable time lag in the flow of information resulting in the untimely execution of instructions. In addition, the decision to reallocate engineer assets is often made on the basis of incomplete status reports. The inability to automatically balance near real time status of engineer resources against the commander's guidance and pass critical engineer information to the force level staff and commander significantly degrade the management of engineer battlefield information.

- b. Increased time efficiency.
- c. Decreased manpower requirements.
- d. Stores large amounts of critical terrain and obstacle data.
- e. Stores and manipulates decision graphics.
- f. Optimizes the allocation of critical engineer equipment.
- q. Provides instantaneous assimilation/processing of engineer data.
- h. Incorporates a streamlined command and control system which is necessary to keep pace with modern AirLand Battle doctrine.

SECTION IV. OPERATIONAL BURDENS

OPERATIONAL BURDENS

- 1. Operational burdens associated with fulfilling the requirement.
- a. Transportability: This system is designed for either standard air, ground, or water transportation. It will not overburden existing transportation requirements nor impede the speed of displacing units in tactical situations.

b. Training:

- 1) Training will be conducted at a central site in each corps, division, or regiment/separate brigade area and at the necessary school/center training institutions.
- 2) Initial Unit Training. The initial training on operation of MCS components will be provided by the MCS New Equipment Training (NET) Team based at Fort Leavenworth, Kansas. This training consists of an eighty hour, hands on course of instruction. Once a unit has received its initial training, it becomes the responsibility of the unit to manage and sustain the program.
- 3) Sustainment training. The sustainment program has two components. First, is the development of a program to provide initial training to new MCS operators. Second, is the maintenance of operator proficiency through periodic training and the use of MCS in unit exercises. To assist the unit in this program, the NET team will leave with each unit the necessary training materials, i.e., instructor and student guides, program of instruction, lesson plans and manuals required to conduct the sustainment program.
- 4) Institutional Training. MCS equipment training will be included at selected Army schools and centers. Combined Arms Center (CAC) will provide these schools and centers individual and collective tasks, conditions, and standards to facilitate the incorporation of MCS training into their program of instruction. MCS-ENG instruction will be incorporated into the Engineer Officer Basic and Advanced Courses as well as the Advanced Noncommissioned Officer Course.

5) Training Devices. The actual MCS hardware will be used for training and no new training devices will be required.

c. Maintenance:

1) Operator/Organizational. Operators will perform PMCS IAW the appropriate operators manual. Using Build-In Test Equipment (BITE) and diagnostic software, operators will perform organizational maintenance troubleshooting. Equipment will incorporate fault detection and isolation proframs to identify malfunctions. Operators will evacuate defective components through their organic maintenance section.

- 2) Intermediate Direct Support Maintenance. Intermediate direct support maintenance personnel will repair MCS equipment as specified in the appropriate maintenance publication. Maintain ASL stock of TCP or AC components.
- 3) Intermediate General Support Maintenance. Military personnel will perform this level of maintenance, which will be limited to the repair of printed circuit boards.
- 4) Depot Maintenance. Government employed civilians and contract personnel will be responsible for TCP and AC Repairs.

SECTION V. MFA MAA CORRECTIVE ACTION SUMMARY-

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MFA MAA CORRECTIVE ACTION SUMMARY

BDP DEF (1986)

SECTION VI. USER INTERFACE REQUIREMENTS

INFORMATION EXCHANGE

INTERFACE NAME: ENGR - CSSCS

SYSTEM 1

SYSTEM 2

INTERFACE IOC: FY

IOC: FY

TYPE IOC FY

TYPE SOURCE OF INTERFACE

OPFAC: MAIN, REAR

OPFAC: CSS

APPROVAL:

FORCE LEVEL:

FORCE LEVEL:

CORPS, DIV, BDE

CORPS. DIV, BDE

MESSAGE TITLE	: Mase	; ;	2	4 H	R V	IOL		:	I	IT	:	RE	CE	PTI	on		;			TR	AF!	FIC	AN	ALYS!S	;	CHARAC	TERS				;
																										;	AVG	;	XAX		:
		•		•		•			•			•		•	•		•		•				-		-	:					
ASSETS STATUS REPORT	:S004	:	3	:	1	;	0		: }	: 1	: }	(i	;		;	3	:		;	PP		0:	501	0:		0:		0 -	:
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LOGISTIC SUPPORT REP	: A030	1	3	;	1	;	0	;	: 3	: 1	: 1	(:		ļ	;		;	3	;	PP	;	C	1	0:	30:	0:		0:		0	:
	;	;	3	;	0	1	1		: }	:	: 1		X	:	;	X	:	3	;	PP	ï	C	;	0:	60:	0:		0:		0	;

INFORMATION EXCHANGE

INTERFACE NAME: ENGR - AFATDS

SYSTEM 1 SYSTEM 2 INTERFACE IOC: FY

IOC: FY TYPE IOC FY TYPE SOURCE OF INTERFACE

OFFAC: MAIN, REAR OPFAC: FSE APPROVAL:

FORCE LEVEL: FORCE LEVEL:

CORPS, DIV, BDE CORPS, DIV, BDE

MESSAGE TITLE : MSG : 24 HR VOL : INIT : RECEPTION : TRAFFIC ANALYSIS : CHARACTERS : NO. : PD : 1 : 2 : M : C : A : R : S : X : P : CR : PR : CL : SP : PE : MIN : AVG : MAX : MINEFIELD OPNS : C440 : 8 : 2 : 0 : X : X : X : : : 4 : 00 : S : 0 : 60 : 0 : 0 : 11334 & SCATTERABLE MINES : : 8 : 0 : 2 : X : X : X : X : X : 4 : 00 : S : 0 : 60 : 0 : 0 : 11334

INFORMATION EXCHANGE

INTERFACE NAME: ENGR - ASAS

SYSTEM 1 SYSTEM 2

IOC: FY TYPE IOC FY TYPE SOURCE OF INTERFACE

OPFAC: MAIN, REAR OPFAC: ASAS APPROVAL:

FORCE LEVEL: FORCE LEVEL:

CORPS, DIV, BDE CORPS, DIV, BDE

MESSAGE TITLE	: MCS	G	;	24	HR	70	L	;	IN	IT		RE	CEI	TI	ON		;			TR	I FF	FIC	AN.	ALYSIS	3		CHAE	ACTERS			;
	; NC).	: P																					SP :				AVG	:	XAX	;
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MOBILITY STATUS	:501	2	;	6	;	3 :	0	:	: X	:	: 3	:	X	;	X	;	;	5	;	00	;	C	;	0:	30		0:		0:	1421	;
	;		;	6	;	0 :	3	;	X	;	X		X	:	X	: 1	: :	5	¦	00	į	C	;	0:	30		0:		0;	1632	;
	1		!		:	;		;	:	;	:	;		:		:	ł		;		;		;	:			;		1		;
BATTLEFIELD GEOMETRY	1502	!1	!	6		2 :	0	;	X	:	X	: :	X	;	X	!	:	4	;	00	;	C	!	0:	30		0:		0:	1632	;
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INTERFACE IOC: FY

SECTION VII. QUANTITY/DISTRIBUTION OF DEVICES

TOE	: LEVEL	1	TAA 92; COMPO ;	ннт	PC	U :	; ; TC		DEV ITEM	DESIGNATED
	;		: 2-MG :		(V 1)	(₹2)	(V1) ;	(V2)		USER
	;		;		:				;	
05026L	: DIA	: EN BN, ABN	: : :	1(-1):			: 1(-1)	0(0)	: 0(0):	PCU - S2
05026L	:	i !	: 0 :	0(0)		0(0)		0(0)		TCU - S3
05026L	1	1	. 0 :	-, -,			(0(0);			HTU - BN CDR
050271.	i :	: ; EN CO, EN BN, ABN	; ;	0(0)			: : 0(0):			PCU - CO OPNS
05027L		!	. 0 :					0(0)		
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05027L	*	1	: 0 ;	- • - •			: 0(0);		0 (0)	
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05443L	:	EN PLT, EN CO, LT EQ	, , ; 6 ;	1(6)	: 0(0):		-			HTU - PLT LDR
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05446L	;	: EN CBT BN, ABN	; 2 ;	1(2)	: 1(2):	0(0)	1 (2);	0(0)	: 0(0)	PCU - S2
05446L	1	•	1 1	• • • • •						TCU - S3
054461		1	: 2 :	1(2)	1(2):	0(0)	: 1(2);			HTU - BY CDR
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05447L	:	: EN CBT CO, EN BN.ABN					(0(0);			PCU - CO OPNS
	;		; 3 ;				: 0(0);			
05447L		i L	: 6 ;	0(0)	;		; 0(0); ; ;			i
05447L	:	: EN CBT PLT, EN CO	; 18 ;	1(18)			; 0(0);			HTU - PLT LDR
054471		!	9 ;	1(9)			: 0(0):			
05447L	1	;	18				0 (0).			
		CITAMORAL C.								
		SUBTOTALS:	1	76	11	7	7	0	0	
			2	13			1	Û	0	
			3	26	10	0	2	0	0	
		GRAND TOTALS:		75	26	3	5	Û	0	

TOE	LEVEL	TYPE OF UNIT	: TAA 92: : COMPO : : 1-AA :	HHT	PC	Ū	; TC		: : DEV ITEM	: : DESIGNATED	1
	;	, , ,	2-NG ;		(VI)	(₹2)	(V 1)	(V2)	† !	USER	:
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05146L	DIV	EN EN	: 10 :	1(10)	1(10);	0(0)	: 1(10):	0(0)	· : 0(0)	. PCU - S2	:
051461	: EVY	!	4 :	1(4)		-		1(4)		: TCU - S3	:
05146L	:	t 1	; 0;	0(0)	0(0);	0(0)	0(0):	0(0)	: 0(0)	: HTU - BN CDR	;
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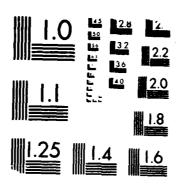
STREET TO SERVICE STREET STREET STREET

TOE	: LEVEL	TYPE OF UNIT		;	ннт	;		PCI	J	;		TCI			DEV	ITEM:	DESIGNATED	:
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05157L	;	: EN CO, EN BN	1 18	;	0(0):	0 (0):	1(18);	0 (0):	0 (0):	0 (0);	PCU - CO OPNS	;
05157L	:	1	: 18	:	0(0):	0 (0);	1 (18):	0 (0):	0 (0);	0 (0):		;
05157L	;		: 1	;	0 (0);	0 (0):	14	1):	0 (0);	0 (0):	0 (0):		i
	1	:	;	;		;		i i		;		1		;		i		i
05157L	i	: EN PLT, EN CO	: 54	;	1(54);	0 (0);	0 (0);	0 (0);	0 (0);	0 (0):	HTU - PLT LDR	:
051571	;	t 1	54	;	11	54);	0 (0):	01	0):		0):	0 (0).	0 (0):		;
05157L	;	1	; 3	;	1(3);	0 (0);	0 (0):	0 (0):	0 (0);	0 (0);		;
	i	1 2	1	;		:		;		;		1		į		;		ï
05434L	t ,	EN CO, PIPE CONST	; 1	;	0 (0):	1(1):	0 (0):		0):	0 (0):	0 (0);	PCU - CO OPES	;
05434L	;	;	; 0		0 (0);	0 (0):	0 (0):		0):	0 (0);		0):		:
05434L	i	1	; 3	1	0 (0);	1 (3):	0 (0);	0 (0):	0 (0);	0 (0).		:
		SUBTOTALS:																
			1 .			60		7		18		6		0		0		
			2			50		6		18		6		0		0		
			3			3		3		1		0		0		0		
		GRAND TOTALS:			12	23	;	16		37		12		G		c		

TOE	; LEVEL	TYPE OF UNIT	; TAA 92 ; COMPO ; 1-AA ; 2-NG	1	HT :		PCU	J	:		TCI]	:	DEV	ITEM:	DESIGNATED	1 1
	· :	1 1 1	; 3-AR	! !	;	(▼1) :	(V 2	!) :	(♥	1) ;	(¥2	()		:	USER	:
	;	1 1	;	;	;		;		;		;		;		;		;
052161	DIV	EN BN, AA DIV	1 1	; ;	.(1):	1(1);	0;	01;	1;	1):	0;	0).	0 (9)	PCU - S2	
052161	. AA	1 1	: 0	: ((0);	0 (0);	0 (0);	0 (0),	0!	0).	0;	6; ;	TCU - S3	
05216L	:	i -	; 0	: 0	(0):	0 (0):	0 (0):	0 (0):	Û (0):	0 (3);	HTU - BN CDR	
	!	; !	1	1	:		;		;		;		;		;		1
05217L	:	EN CO, EN BN	; 3	; ((0):	0 (0):	1(3):	0 (0);	0 (0):	0 (0):	PCU - CO OPXS	:
052171	11	•	; 0	: 0	(0):	0 (0):	0 (G):		0):	0 (0):	0 i	Û;.		:
05217L	:	, 1	; 0	1 ((0):	0 (0);	0 (0);	0 (0):	0:	0):	0:	0):		:
		<u>.</u> 1	1	,	2		<i>t</i>		;		:		,				
05217L	1	EN PLT, EN CO	; 9	: 1	(9);	0 (0):	0 (0):	0 (0):	0 (0):	0;	0::	HTU - PLT LDA	:
050171	:	ł 1	: 0	: ((0):	0 (0).	0 (0):	0 (0);	0 (011	0;	ij١.		
05217L	;	1	; 0	: (0);				0)'	9 (0):	0 (3) (,
		SUBTOTALS:															
			1		10		1		3		1		0		0		
			2		0		0		0		0		ĵ		0		
			3		0		0		0		0		0	•	0		
		GRAND TOTALS:	,		10		1		3		:		C		0		

				ATG	VTIT	Y/DIS	<u> </u>	roit	OF D	EVIC	ΞS					
TOE	: LEVEL	: TYPE OF UNIT	: TAA 92: : COMPO : : 1-AA :	HHT	:		PCU	 J	:		TCU	 -	:	DEV	ITEM:	DESIGNATED
	: } *	!	2-NG ;		, .	(V)) ;	(₹2)	 -	(V)) :	(V2	()		: : ******	USER
	: DIV : MTZ	EN CET BN. MTZ	; 1 ; 0 ; 0 ;	0 (0); 0);	0 (0);	0 (0 (0):	0 (0 (0):	0 (0):	PCU - S2 TCU - S3 HTU - BN C
05257L 05257L 05257L	: :	: EN CO, EN CBT BN	; 3 ; ; 0 ; ; 0 ;	01	0);		0):	1(0(0(•	0 (0): 0): 0):	0 (0):	9 (0); 0); 0);	
052571 052571 052571		EN PLT, EN CO	: 12 : : : : : : : : : : : : : : : : : :	0(0 (0);	0 (0 (0);	0 (0); 0); 0);	0 (01:) () (0); 0); 0);	
05258L 05258L 05258L	•	EN CO, EN CBT BN	1 : 0 : 0 : 1	0(0):	0 (0):		1); 0); 0);	0 (0): 01: 01:	0 (0):	0 (0):	
05258L 05258L 05258L		: EN PLT, EN CO :		0 (0 (0 (0 (0 (0): 0):	ð (0): 0): 0):	
		SUBTOTALS:	1 2 3		16 0 0		: 0		4 0 0		: 0 0		0 0		0 0	
		GRAND TOTALS:		1	6		1	4			:		0		ú	
						I-1	/II	- 6								

ANALYSIS OF TACTICAL AUTOMATION REQUIREMENTS FOR THE MANEUVER FUNCTIONAL AREA(U) ARMY COMBINED ARMS COMBAT DEVELOPMENT ACTIVITY FORT LEAVENMOR. L J DACUNTO 96 NOV 87 F/G 12/7 MD-R191 646 3/4 UNCLASSIFIED NL



MICROCOPY RESOLUTION TEST CHART

TOE	: LEVEL	: TYPE OF UNIT	: TAA 92; : COMPO : : 1-AA :	HHT	PC	U	: TCI	Ū	DEV ITEM	DESIGNATED
	: 	i ; ;	: 2-MG : : 3-AR :	; ; *	(V1) ;	(¥2)	(V1) :	(V2)		USER
5426L	CORPS	: EN CBT BN	6	1(6)	1(6)	0(0)	1(6):	0(0)	. 01 01	PCU - S2
5425L			17 :	1(17);				0(0)		TCU - S3
5426L	:	, , ,	: 10 :	1(10):				0(0)		HTU - BN CDR
5427L	1	: EN CBT CO	; 24 ;	0(0);	1(24);	0(0)	; ; 0(0);	0(0)	; ; 0(0);	PCU - CO OPNS
54271	:	<u>.</u>	: 68 :	0(0):	-			0(0)	: 0(0):	
5427L	;		44 ;	0(0);	1(44):	0(0)	: 0(0):	0(0)	: 0(0): :	
5427L	;	EN CBT PLT, EN CO	: 72 :	1(72):	0(0):	0(0)	0(0);	0(0)	(0 (0)	HTU - PLT LDR
5427L	;	•	: 204 ;	1(204);				0(0)		
1427L	: 4		: 132	1(132);	0(0):		: 0(0):	0(0)	0(0)	
5436L	:	: EN CBT BN	8	1(8);				0(0)	. 0(0):	PCU - S2
5436L	;	1	15 ;	1(15):				0(0)	: 0(0)	TCU - S3
5436L	:	·	4 :	1(4):	1(4);	0(0)	! 1(4) ;	0(0)	; 0(0);	HTU - BN CDR
5437L	:	EN CET CO, EN BN	32	0(0):	0(0);	1(32)	0(0);	0(0)	: 0(0)	PCU - CO OPNS
5437L	;	:	; 60°;	0(0):	0(0);	1(60)	: 0(0):	0(0)	: 0(0)	1
5437L	:	!	: 16 :	0(0):	0(0);	1 (16)	: 0(0); :	0(0)	: 0; 0): :	
5437L	;	: EN CBT PLT	: 96 :	1(96):	0(0):	0(0)	: 0(0):	0(0)	: 0(0)	HTU - PLT LDR
5437L	;	:	: 180 :	1(180);				0(0)	: 0(0)	1
5437L	:	:	: 48 :	1(48):	0(0);	0(0)	(0(0):	0(9)	: 0(0)	!
		SUBTOTALS:								
			ì	182	38	32	14	0	0	
			2	416	100	60	32	0	0	
			3	194	58	16	14	0	0	
		GRAND TOTALS:		792	196	108	60	0	0	

TOE	: LEVEL	TYPE OF UNIT	TAA 93 COMPO 1-AA 2-NG	HET	PC	ט	: TCI		DEV ITEM	DESIGNATED	
	:	, ! !	; 2-NG ; 3-AR	•	(V1)	(¥2)	(V1)	(¥2)	; ;	USER	; ; ;
05416L 05416L 05416L		EN CBT BN (EVY)	; 14 ; 14 ; 18	: : 1(14) : 1(14) : 1(18)	1(14):	0(0)	1(14):	0(0; 0(0) 0(0)	0; 0;	PCU - S2 TCU - S3 HTU - BN CDR	;
05417L 05417L 05417L	1 1 1 1	: EN CO, EN CBT BN :	: 44 : 43 : 54	: : 0(0) : 0(0) : 0(0)	1 (43);		0(0)	0(0) 0(0) 0(0)	, 0(0).		:
05417L 05417L 05417L	:	: EN PLT, EN CO	: : 132 : 129 : 162	: 1(132) : 1(129) : 1(162)	0(0):	0(0)	0(0):	0; 0; 0; 0; 0; 0;	(0(0)		;
054241 054241 054241	:	: : EN CO, DUMP TRK :	; 0 ; 3 ; 0	; ; 0(0) ; 0(0) ; 0(0)	1(3)	0(0): 0(0):	: 0(0):	0(0) 0(0) 0(0)	0: 0:	2ZEC CO - CO 9FZS	
		SUBTOTALS:	1 2 3	146 143 180	58 60 72	0 0 0	14 14 18	0 0 0	0 0 0		
		GRAND TOTALS:		469	190	0	46	0	0		

	: LEVEL	TYPE OF UNIT	; TAA 92; ; COMPO ; ; l-AA ; ; 2-NG ;	HHT		PC	T	; ;	••••	TCI]	;	DEV	ITEM:	DESIGNATED
		! 	3-AR :		(V	1) ; †	(V2	3) ;	{₹;	() ;	(V2) ; ;		; ; ;	USER
05103L	: BDE	: : EN CO, SEP IN BDE	: :	0(0)	: : 0(; (0	11	1):	0(0):	0(0):	0(0):	PCU - CO OPN
051031		! :	7	-, -,		-		7):		0);		0):		01:	
05103L	:	• •	1 1 1	0(0)	; V((0) ; ;	1(1);	0 (0} ; ;	υţ	(1)	0 (0) :	
05103L		EN PLT, EN CO	4 1			•					-	•	0 (HTU - PLT LD
05103L 05103L		1	; 28 ; ; 4 ;	1(28)		0); 0);		0); 0);		0);		0):		0):	
	*	• •		- (-)	!	;	• •	1	• (;	• (;	• (;	ı
05113L		EN CO, ACR	; 3;	0(0)	,			3);		0);	0(0);	- ,		PCU - CO OPN
05113L 05113L		i !	; 2;	0(0)		0); (0);		2);		0);		01:		01 : 01 :	
	i		:		,	;		;		;		;			
05113L 05113L		EN PLT, EN CO		1(9)		0); 0);	- •	0); 0);		0): 0):		0): 0):		0); 0;;	HTU - PLT LD
05113L		, ,	: 0 :	0(0)	-	0)		0) (0);				0;	
05114L	1	ነ የዝ ስለ መለዝስመ የጉመ		۸، ۸۰	<u>.</u>	1	ο,	۱	٨.	, ;	Α.		۸.	٥.	. BATT - 60 055
05114L		EN CO, CONST SPT	: 1 :	0(0)		1); 3);		*0); (0);		0);					PCU - CO OPN
05114L	;	1	; 3	0(0)				0);		0):		0):	-	0;	
05143L	:	EN CO, SEP AR BDE	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	0(0)	; ; 0(0):	16	: 3);	01	0):	0.6	: : (0	0.0	Δı	: PCU - CO OPN
051431		:	: 8 :	0(0)				8) :		0) (0).		0)	
051 43 L	:		1 1	0(0)	: 0(0);	11	1):	0 (0):	9 (0) (0 (0;	
051431	:	EN PLT, EN CO	: 15	1(15)	: 0(0):	0 (0):	0 (01:	0 (0):	0(0):	· · HTU - PLT LI
051431	1		40	- (/		0):						0):		01	
05143L			. 5 : . :	1(5)	: 01 :	0)	U	0):	0 (0):	υţ	0:	0 (0)	
055031	!	EN PORT CONST CO		0 (0)		• • •		0;		0) (0:		POU - 00 0PM
05603L 05603L		t	. 0	0(0)		0); 2);		0),		01 ·		0); 0);	0.)):);;	
			, 2	U. U,	• (• .	•	٠,	- 1	٠,	·	2,		47	'
		SUBTOTALS:	,	28		9		7		0		1)	
			2	74		3		17		Ó		Ů		ŷ	
			3	9		5		2		0		Ĵ		0	
		GRAND TOTALS:		111		:c	2	25		0		0)	

TOE	LEVEL	: TYPE OF UNIT : :	: TAA 92: ; COMPO ; ; 1-AA ; ; 2-NG ;	нн	; [PC	U	; ;		TC1	J	: ! !	DEV	ITEM:	DESIGNATED
	: :	1 	3-AR :		; ; ••••••	7)	(1)	(V2	2) ;	(₹	1) ;	(₹2) ;		! ! *	USER
05423L	!	: : EN CBT SPT EQ CO	; ; 7;	01	0):	1(7);	0(0);	٥,	0.	Δ.	01 ;	۸,	٠.	PCU - CO OPNS
05423L		, EM ODI 311 E Q OO	16 ;	0(0):		16);	0(0);	0(0); 0);	0(0(0);		0);	
05423L	:	1	5 ;	0(0):				0);	0(0):	0(0):		0):	
05423L	; ;	: : En Plt, En Co	; 42 ;	1(42);	0 (: : {0	0(; (0)	01	; 0);	0 (0):	01	; (0	HTU - PLT LDR
05423L	:		: 96 :		96):		0);	0 (0):	0(0);	01	0):	01	0):	,
05423L	\$ 1	, ! ,	30	1(30)	0 (0):	01	0):	0(0)	0(0);	0 {	0);	
05453L	:	EN CO, PANEL BRG	: 0 :	0 (0):	0 (0):	0 (0):	0 (0):	0 (0):	0 (0):	
05453L	;	1	: 10 :	0 (10);	0 (0);	0 (0):	0.1	0);	0 (0):	PCU - CO OPNS
05453L	;	:	9 :	0 (0):	1 (9);	0 (0);	0 (0):	0 (0);	0 (0);	
05453L	;	: EN PLT, EN CO	: 0:	0 (0):	0 (0):	0 (0):	0 (0):	0 (0):	0 (0);	•
05453L	:	•	: 20 :	1 (20):	0 (0):	0 (0):	0 (0);	0 (0):	0 (0):	HTU - PLT LDE
05453L	:	1-	18 ;	1(18)	0 (0):	0 (0);	0 (0):	0 (0):	0 (0):	
05463L	:	EN CO, MOM GDR BR	4 ;	0 (0);	1 (4):	0 (0):	0 (0);	0 :	01;	0 (0)	PCU - CO OPNS
05463L	•	å 1	. 4 :	0 (0);	1 (0):	0 (0):	0 (0)	0 (0).	
05463L	:	, !	: 1 :	0 (0):	1 (133	0 (01;	0!	01.	0 1	0).	Ű (0).	
05463L		EN PLT, EN CO	. 8	1(8);	0 (0);	0 (01:	0 (0)	0 (01:	0 (0;	HTU - PLT LDR
05463L	4	1	: 8 :	11	8)	0:	0):	0 (0):	0 !	0)	0 (0):	0.	Q1.	
05463L	F		; 2 :	1(2):	0 (0):	0 (0):	0 (0);	0:	0)	1.0	0)	
054931		EN CO, ASLT FLT BR	5 ;	0 (01:	10	5);	0 (0):	0 (0):	0 i	ð: ·	0;	0;	FOU - CO CPNS
054931	1	1	1 12 1	0 (12)	0 (91.	0 (0).	0ι	6.	0.7	ij).	
054931		•	5 :	0 (0) .	11	5).) (21:	0;	3)	91	0;	٥t	93	
354931		· EN PLT, EN CO		11	10)	0 :	01	0 (0.	Ç.	G:	0:	0) -	٥,	HTT - FLT LOW
354931			24 .		241	0 (C	\$.	0:	31	9:	20	2.		
054931	,		10	: ·	10)	0 :	01.	(*	01	0:	0.1	Ì.		2.	:	
055001		EN BY, ADMIN TW	.0				10.	01	3 -		11)	5:	21.	51	:	F3U - 32
055001			16						0 .		16);	ð	4 -		700 - 23
055001			4	1,	4:	ì	4 ·	Ĵ)	1;	4	Ÿ	31	?	j.	
056051		EN TOPO BN	. 3	0:	Ċ,		3:	91	Ċ.	ij.		;	4	÷:	;	FTT - \$3
256051			•	0,		: (3.	₿:	:	9		:			
SEESE.			G	0:	0 -	0:	j.	2.1	23	0		•	÷	Ĉ.	٠,	

TOE	:	TEAET	: TYPE OF UNIT	; (PAA 9 COMPO 1-AA 2-NG	:	HET	: :		PC!	J	;		TC	J	;	DEV	ITEN:	DESI	GNAT	ED	
	,		i :		3-AR			·				2) :)) :		;	TSEB			
	1		t 1	:		;				;				: -								
056071	1		: CARTO, EN TOPO BN		6	;	0(0);	1(6);	0 (0):	9(01:	0 (011	٥;	ŷ).	PCU	- 00	OPNS	
056071	;		1	1	1	;	0 (0):	1(1):	0 (0):	0:	0);	0:	0):	0 (0) -				
05607L	1		:	;	2	;	0(0):	1(2) [0 (0):	0 (0} ;) (0):	0 (0):				
			SUBTOTALS:																			
					1			70		35		0		10		13		0				
					2		1	64		60		0		16		ŋ		0				
					3			54		25		0		4		0		C				
			GRAND TOTALS:				29	38	1	2!		0		30		0		n				

APPENDIX J

CHEMICAL SCHOOL STUDY DELIVERABLES

SECTION I. TASK/FUNCTIONS TO BE AUTOMATED

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT	: CHEMICAL UNITS	ECHELON: BN	COMMANI SECT
PRICRITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
i	EVALUATE MISSION	Х	X
2	CONDUCT PRELIMINARY MISSION ANAL.	X	X
3	DEV TASK ORGANIZATION/CONCEPT OF OP	X	Х
4	FORMULATE TENTATIVE PLAN	Х	X
5	PLAN MANEUVER CONTROL MEASURES	Х	
€	ISSUE OFORD	X	
?	PREPARE FOR OPERATIONS	Х	X
8	CONTROL & COORDINATE BN OPERATIONS	X	
ç	CONTROL UNIT OPS BY GRAPHIC CONTROL	X	
10	ISSUE FRAGO	X	
11	REPORT THREAT	X	
12	MAKE SPOT REPORTS	Х	
13	RPT BOMB.SHELL, ROCKET, AIRCRAFT FIRE	X	
14	REPORT SAEDA	X	

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: CHEMICAL UNITS ECHELON: BN S2/S3 SECT

PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
•	EVAULATE MISSION	X	X
2	ANALYZE TERRAIN USING METT-T	x x	••
3	CONDUCT PRELIMINARY MISSION ANAL.	X X	X
4	EST ENVIRONMENT EFFECTS ON NBC OFNS	X	X
5	AMALYSIS OF FRIENDLY TRP POSITIONS	X	X
6	PREPARE INTELLIGENCE ESTIMATES	X	
7	PREPARE ANALYSIS OF AREA OF OPNS	X	
9	FORMULATE TENTATIVE PLAN	X	
9	PREPARE BN OPERATIONS ESTIMATE	Х	
10	DEV TASK ORGANIZATION/CONCEPT OF OP	X	
11	TASK ORGANIZE NBC UNITS	Х	X
12	PLAN MANEUVER CONTROL MEASURES	X	
13	OBTAIN/PROCESS/ISSUE INTEL IMFO	X	
14	COORDINATE WITHIN BN HEADQUARTERS	X	•
15	MAINTAIN ENEMY/FRIENDLY SIT MAP	X	
16	PREPARE NBC SIT MAPS & OVERLAYS	X	X
:7	PREPARE FOR NBC OPERATIONS	X	
	PLAN/PREPARE FOR NBC RECONNAISSANCE		X
19	PLAN FOR BIOLOGICAL SAMPLING	X	X
20	PLAN/FREPARE FOR NBC SURVEY	Х	X
21	SELECT PERS/EQUIP DECON SITE	Ä	X
22	PLAN FOR USE OF CONTROL MEASURES	X	Х
23	EST QTY OF FUEL/FOG OIL REQUIRED	х	Ä
24	DETERMINE SMOKE POT REQUIREMENTS	X	Х
25	DEV STORAGE REQUIREMENT FOR FOG OIL	Х	X
26	101 10110111100 1104 10 10 100111 1110110	Х	X
27	FORECAST DECON MATERIAL REQUIREMENT	Х	X
28	DEV STORAGE REQ FOR DECONTAMINANTS	7.	X
29	FREFARE FOR OPNS IN A NBC ENVIR.	X	X.
3 0	FREFARE AN OPERATIONS OVERLAY	X	
7:	PREFARE AND ISSUE ORDERS	X	
32	MAINTAIN MOVEMENT PLANS & SOFs	X	
33 -	DET OPT POSTION FOR NBC ALARM EQUIP	X	::
74	ADVISE USE OF SMOKE IN SM UNIT OPNS	X	X
7.5	ANALYSIS TO SELECT SMOKE POSITIONS	X.	X X X X
36	CONTROL SMOKE OPERATIONS	X.	••
37	PREPARE FOR NBC ATTACK	X.	¥
<u> </u>	IMPLEMENT MOFP	X	Á
7.	FREFARE WIND VECTOR PLOTS	<u>:</u>	<i>i.</i>
∓ :	FREFARE EFFECTIVE DOWNWIND MESSAGE	X	7.

HIGH PAYOFF TASK-FUNCTIONS TO BE AUTUMATED

הואה האום	: CHEMICAL UNITS	ECHELON: EN	90 88 8E0T
PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
4:	FREPARE/ISSUE CHEM DOWNWING MSG	Σ	X
1.	PREPARE/PROCESS MED 1 & 0 REPORTS	${\mathbb R}$	Ξ.
43	CALCULATE NUCLEAR WEAPONS YIELD	<u>.</u>	.:
44	CALCULATE GROUND ZERO LOCATIONS	7	: :
4.5	PREPARE/ISSUE FALLOUT PREDICTION	;; ;;	;
46	IMMEDIATE WARNING OF CONTAMINATION	: :	· · · · · · · · · · · · · · · · · · ·
	DET TEMP EFFECTS ON CHEM/BID AGENT	: ::	** **
	DET WIND EFF ON CHEM BIG CLOSS TVL	 	-
4.3	CALCULATE DOWNWIND VAPOR HADARD	Λ 	
*** * : - :	FREFARE/ISSUE MEC 3 REFORMS		
		44	
5.	REAL UNIT DOGIMETERS	<u>::</u>	X.
<u> </u>	RET INITIAL RADIATION EMPOSURE 108E	:	X
53	RPT RECORD PERSONNEL DOSE RATES	::	<i>i</i> .
ξ÷	EST DOSAGE EMPOSURE IN FALLOUT AREA	<u>::</u>	X
55	SELECT RADIOLOGICAL/OHEM SURVEY RIE	\mathbb{X}	X
7 5	MAKE RAD/CHEM SURVEY OVERLAYS	••	£
F.77	BESS MOSTASCAR LATES TROTES TOESLOS	<i>t</i>	X
ē.	REG. MAINTAIN RADIATION DOSE STATUS	*:	X
53	PREFARE, PROCESS, & ISSUE MED 4 RET	X	X
	DOMPTIE AIR/GNI CORRELATION FACTURS	••	<u>:</u>
	READ AND REFORT BALLATION DOSAGES		Ÿ
<u> </u>	REDORD DATA IN DA 1971-8 % 1971-1-8	Ž	X X
= 1	DIMBUTE TRANS CORRELATION FACTORS	······································	· · · · · · · · · · · · · · · · · · ·
	DETERMINE RADIATION DEDAY FACTORS	: :	X X
£ ₹	DINVERT RAI DATA TO BNI 1088 RATES	: :	:
:	DET 1988 RATE IN FALLSUT AREA		••
÷ .	DET 1988 RATE DINTOUR FROM RAI DATA		;;
- 	REC PRICESS PLIT CHEM BID RECONSET	$rac{\lambda}{\lambda}$	
		λ. Σ	2 2 2 2 4
- *	FREPARE ISSUE MED 6 BEFURDE	∴ 	
**	DAL TIME OF ENTRY FOR FALLOUT AREA	X	X.
	CAL TIME OF STAY IN FALLOUT AREA	.	••
-	TAL OFT TIME OF EXIT FROM FALLOUT	:	••
~ -	COMPUTE TOTAL DOSE		••
•	FREFARE RADIATION DOSE STATUS CHART	:	•
7:	TETERMINE ENEMY TARGET LOCATIONS	∴.	
• -	FFEFARE FROENCLY NOT THEM STRING	X.	
~~	ESTABLISH WORK & REST INTERVALS	\mathbb{X}	
~:	PREPARE UNIT MOVEMENT PLAN	\mathbb{X}	
~ ;	MAINTAIN MED DEF TEAM FERS CHARTS	:	•
::	MAINTAIN CHEM EQUIF STATUS CHART		÷
		•	

HIGH FAYOFF TASK/FUNCTIONS TO BE AUTOMATE!

TYPE UNIT	: CHEMICAL UNITS	ECHELON: BN	\$0,33 SECT
PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
31	ADVICE ON CHEM AGENTS/COMPOUNDS	X	X
82	PROVIDE ADVICE ON BIOLOGICAL DEF	7.	Z
93	ADVISE SUPPLY/DIST OF NEC EQUIP		X
94	CONTROL & COORDINATE BN OPERATIONS	**	
35	CONTROL UNIT OPN BY GRAPHIC CONTROL	X	
85	PREPARE/ISSUE FRAGMENTARY ORDER	X	
87	REPORT THREAT	X	
88	REPORT AIR ATTACK	Ξ.	
<u>9</u>	REPORT INTERFERENCE & INCIDENTS	X	X
90	MAKE SPOT REPORTS	X	
91	RPT BOMB, SHELL, ROCKET, AIRCRAFT FIRE	*	
92	PROCESS EPW	X	
93	PROCESS CAPTURED DOCUMENTS & EQUIP	X	
94	REPORT TREDA INCIDENTS	X	
95	PREPARE/POST DAILY STAFF JOURNEL	X	
26	ENCODE/DECODE MESSAGES	X	
97	PREPARE FOR FUTURE OPERATIONS	X	

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HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT	T: CHEMICAL UNITS	ECHELON: BN	SI SECTION
PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
•	EVALUATE MISSION	X	
2	FORMULATE TENTATIVE PLAN	X	
3	PLAN MANEUVER CONTROL MEASURES	X	
4	FORECAST LOSSES	X	
Ę	COORDINATE WITHIN BN HEADQUARTERS	X	
5	FREPARE FOR OPERATIONS	X	
7	CONTROL UNIT OPS BY GRAPHIC MEASURE	**	
8	MAINTAIN MOVEMENT PLANS & SOPs	X	
9	PROCESS EPW	X	
- 0	REPORT SAFDA INCIDENTS	Ж	

	HIGH PAYOFF TASK/FU) TO BE AUTOMAT	
	IO BE ACLUMA.	. E <i>J</i>
TYPE UNIT	: CHEMICAL UNITS	ECHELON: BN S4 SECTION
PRIORITY	TASK/FUNCTION	FORCE LEVEL MFA UNIQUE
3 4 5 6 7 8 9 10 13 14 15 15 17	FORMULATE MISSION FORMULATE TENTATIVE PLAN PREPARE A LOGISTICS ESTIMATE PLAN & COORDINATE LOGISTICAL SPT FLAN MANEUVER CONTROL MEASURES COORDINATE WITHIN BN HEADQUARTERS MAINTAIN MOVEMENT PLANS & SOPS PREPARE FOR OPERATIONS CONTROL UNIT OFN BY GRAPHIC CONTROL INVENTORY LIST SETS, KIT. & OUTFITS MAINTAIN PROPERTY RECEIPTS & RECORD MAINTAIN TAMMS RECORDS PROCESS MATERIAL READINESS REPORTS REFORT VEHICLE/EQUIPMENT STATUS REPORT SUPPLY STATUS/REQUEST SUPPLY REQUEST RATIONS & COOR FOOD SERVICE PROCESS REQUEST FOR AMMUNITION REQUEST SUPPLIES FERFORM GRAVES REGISTRATION ACTIONS TRANSACTIONS WITH SUPPORT MAINT. OBTAIN RELIEF ON LOST/DAMAGE EQUIP REFORT SAEDA INCIDENTS	X X X X X X X X X X X X X X X X X X X
	-	
	J-I-7	

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: CHEMICAL UNITS ECHELON: CO HQ

PRIORITY	TASK/FUNCTION	FORCE	LEVEL	MFA UNIQUE
1	MAINTAIN ENEMY/FRIENDLY SIT MAP		х	
2	PLAN/PREPARE/CONTROL FOR NBC OPNS		X	X
3	PLAN/PREPARE FOR NBC RECONNAISSANCE		X	X
4	PLAN FOR BIOLOGICAL SAMPLING		X	X
5	PLAN/PREPARE FOR NBC SURVEY		X	X.
ě	EVALUATE MISSION		X	X
7	FORMULATE TENTATIVE PLAN		X	X
8	PLAN MANEUVER CONTROL MEASURES		X	X
Ģ	EST QTY OF FUEL/FOG OIL REQUIRED		X	X
10	DETERMINE SMOKE POT REQUIREMENTS		X	Х
i 1	DEV STORAGE REQUIREMENT FOR FOG OIL		Х	Х
12	DET PERSONNEL REQ TO DO DECON TASKS		X	Х
13	FORECAST DECON MATERIAL REQUIREMENT		Х	X
14	DEV STORAGE REQ FOR DECONTAMINANTS		X	· X
15	TASK ORGANIZE NBC UNITS		Х	Х
16	ISSUE OPORD		Х	Х
17	PREPARE FOR NBC OPERATIONS		X	X
18	PREPARE FOR OPNS IN AN NBC ENVIR.		::	. Х
19	ANALYZE TERRAIN USING METT-T		X	
	EST ENVIRONMENT EFFECTS ON NBC OPNS		X	Х
2:	ANALYSIS OF FRIENDLY TRP POSITIONS		X	X
	DET OFT POSTION FOR NBC ALARM EQUIP		X	X
23	CONTROL UNIT OPN BY GRAPHIC CONTROL		X	X
24	ANALYSIS TO SELECT SMOKE POSITIONS		X	X
	REPORT NEC ATTACK		Ξ	X
36	FREPARE FOR MBC ATTACK		X	X
27	IMPLEMENT MOPP		X	X
28	PREPARE WIND VECTOR FLOTS		X	<u>Y</u>
29	PREPARE EFFECTIVE DOWNWIND MESSAGE		X	X
	PREFARE/ISSUE CHEM DOWNWIND MSG		Z	::
	PREPARE/PROCESS NBC 1 & 0 REPORTS		::	:
30	CALCULATE NUCLEAR WEAPONS YIELD		X	Χ
3.3	CALCULATE GROUND ZERO LOCATIONS		X Y X	X.
24	FREFARE/ISSUE FALLOUT PREDICTION		7	:
	IMMEDIATE WARNING OF CONTAMINATION		X	$\ddot{\mathbf{x}}$
36	LET TEMP EFFECTS ON CHEM/BIG AGENT		: :: :::::::::::::::::::::::::::::::::	:. ::
37	DET WIND EFF ON CHEM/BIO CLOUD TVU		::	: .
33	CALCULATE DOWNWIND VAPOR HADARD		X	X
79	FFEFARE/ISSUE NBC 3 REPORTS		Χ.	••
40	READ UNIT DOSIMETERS		X	X

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HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: CHEMICAL UNITS ECHELON: 00 HQ

ランティンフェボマ	TASK/FUNCTION	FORCE LEVEL	Az a mos cos
1419311	THER/PERCIPOR	remer lavan	His Dr. Latter W. Lill
<u>.</u> ,	RFT INITIAL RADIATION EXPOSURE DOSE	X	
42	RFT & RECORD PERSONNEL DOSE RATES	x X	
43	EST DOSAGE EXPOSURE IN FALLOUT AREA		X
44	SELECT RADIOLOGICAL/CHEM SURVEY RTE	 	X
4.5	MAXE RAD/CHEM SURVEY OVERLAYS	X	X
46	COLLECT/REPORT TOTAL RADIATION DOSE	X.	X
÷7	REC. MAINTAIN RADIATION DOSE STATUS	. X	X
48	FREFARE, PROCESS, & ISSUE NBC 4 RPT	X X	X
43	COMPUTE AIR/GND CORRELATION FACTORS	;; ;;	X
50	READ AND REPORT RADIATION DOSAGES	" "	X
51	RECORD DATA ON DA 1971-R & 1971-1-R	X	X
	COMPUTE TRANS/CORRELATION FACTORS	X	X
53	DETERMINE RADIATION DECAY FACTORS	X X	X
54 54	CONVERT RAD DATA TO GND DOSE RATES	X X	X
	DET DOSE RATE IN FALLOUT AREA	X	X X
5.6	DET DOSE RATE CONTOUR FROM RAD DATA	X X	X X
	HEC/PROCESS/PLOT CHEM/BIO RECON RPT	X X	X
5 9	PREPARE ISSUE NBC 5 REPORTS	X	X
55 53	CAL TIME OF ENTRY FOR FALLOUT AREA	X	X
50 50	CAL TIME OF STAY IN FALLOUT AREA	X Z	X X
51		X X	A X
50 50	CAL OPT TIME OF EXIT FROM FALLOUT COMPUTE TOTAL DOSE	x X	X
53 53	PREPARE RADIATION DOSE STATUS CHART	A X	A X
		$\stackrel{\mathbf{A}}{\mathbb{X}}$	
54 35	PREFARE AN OPERATIONS OVERLAY	A X	X
	FREPARE FRIENDLY NUC/OHEM STRIKE SELECT PERS/EQUIP DECON SITE	X = X	r X
6.6 3.7	ESTABLISH WORK AND REST INTERVALS	$rac{A}{X}$	
	MAINTAIN NEO DEF TEAM PERS CHARTS	** **	Z A
5 6 4 3		A X	: :
7. # 74. *	MAINTAIN CHEM EQUIP STATUS CHART ESTABLISH SUPPORT REQUIREMENTS	$rac{A}{\lambda}$	A X
•	FREFARE/FLAN UNIT MOVEMENT FLANS	. . .	*7
		A X	••
3	REPORT AIR ATTACK REPORT INTERFERENCE AND INCIDENTS		<i>:</i> -
	MAINTAIN FRESCRIBED AMT OF SUFFLIES		X
· 독 • 종	MAXE SPOT REPORTS	Х	. .
=		•	
** # ***	PREPARE A SITUATION REPORT SETTRESS	:	
	RET ECME. SHELL, MORTAR, AIRDRAFT FIRE	7	
	FREFARE (ISPUE FRAGMENTARY IRDER	••	
• •	REFORT THREAT	••	
= 0	FEFORT SAEDA INDITENTS	· · · · · · · · · · · · · · · · · · ·	

HIGH PAYOFF TASK FUNCTIONS TO BE AUTOMATED

TYPE UNIT	: CHEMICAL UNITS	ECHELON: CO	HQ
PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
31	MAINTAIN UNIT STRENGTH REPORTS	X	
8 I	REPORT PERSONNEL STATUS	7.	
93	PROVIDE UNIT LEVEL CASUALTY MGT	X	
84	FREFORM UNIT LEVEL GRREG FUNCTIONS	X	
55	CONDUCT SUPPLY TRANSACTIONS	X	Ξ
35	COORDINATE FOOD SERVICE/REQ RATIONS	Z	
37	REQUEST SUPPLIES/LOGISTIC SERVICES	X	
83	REQUEST AMMUNITION	X	
કેઉ	INVENTORY SETS, KITS, AND OUTFITS	X	
90	MAINTAIN PROPERTY RECEIPTS & RECORD	X	
91	MAINTAIN TAMMS RECORIS	:	
92	MAINTAIN THE PLL		
93	ESTABLISH PRIORITIES FOR GEN MAINT.	X	
94	CONDUCT TRANSACTIONS WITH SUP MAINT	X	
95	LOST OR DESTROYED PROPERTY RELIEF	:	
9 £	PROCESS EPW	:	
<u> 3</u> ~	FREFARE POST DAILY STAFF JOURNEL		
<u> </u>	ENCODE DECODE MESSAGES -	<u> </u>	
33	PREPARE FUR FUTURE OPERATIONS	X	

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: CHEMICAL UNITS ECHELON: PLT RECON

CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR

PRIDRITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
1	PLAN/FREPARE/DIRECT A NBC RECON	x	
2	PLAN/PREPARE FOR NBC SURVEY	Х	Х
3	PLAN/PREPARE BIOLOGICAL SAMPLING	X	X
4	DEPLOY FIXED EMPLACEMENT ALARM UNIT	X	X
5	IMPLEMENT MOPP	X	Х
6	REPORT CHEMICAL/BIOLOGICAL ATTACK	X	X
7	PREPARE AND SUBMIT NBC 1 REPORT	X X	X
3	READ UNIT DOSIMETERS	X	x
Э	REPORT INIT RADIATION EXPOSURE DOSE	Х	Ä
10	RFT & RECORD PERSONNEL DOSE RATE	X	X
11	PREPARE AND SUBMIT NBC 4 REPORT	Х	Х
12	ESTABLISH AIR-GND CORRELATION FACT.		X
13	READ & REPORT RADIATION DOSAGES	X	X
14	RECORD DATA ON DA 1971-R & 1971-1-R	X	X
15	COMPUTE TRANS/CORRELATION FACTORS	Х	X
16	FREPARE RADIO/CHEM SURVEY OVERLAYS	X	X
17	SUBMIT NBC CONTAMINATION REPORTS	X	X
19	SELECT/REPORT EQUIP/FER DECON SITE	X	X
19	PLAN/PREPARE AREA/ROUTE/ZONE RECON	X	
20	ANALYZE TERRAIN USING METT-T	X	
21	SELECT A MOVEMENT ROUTE USING A MAP	X	
2.2	COLLECT/REPORT INFORMATION - SALUTE	Х	
23	PREPARE AN OPERATION OVERLAY	X	
24	CALL FOR/ADJUST INDIRECT FIRE	X	
25	MAINTAIN PERSONNEL ACCOUNTABILITY	• • • • • • • • • • • • • • • • • • • •	
26	REQUEST SUPPLIES/LOGISTICAL SERVICE -	X	
27	ENCODE/DECODE MESSAGES	$\ddot{\lambda}$	
ួខ	REPORT INTERFERENCE & INCIDENTS	X	

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: CHEMICAL UNITS ECHELON: PLT DECCN

PRICRITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
•	PLAN DECONTAMINATION OPERATIONS	X	X
2	ANALYZE TERRAIN USING METT-T	X.	
3	ENVIROMENTS EFFECTS NEC & SMOKE OPN	X	
4	DETERMINE SMOKE FOT REQUIREMENTS	X	X
5	DET. PERSONNEL REQ FOR DECON TASKS	X	X
6	FORECAST DECON MATERIAL REQUIREMENT	X ·	X
7	DEV STORAGE REQ FOR LECONTAMINANTS	X	X
e	PREPARE FOR OPNS IN NBC ENVIRONMENT	X	
9	PREPARE FOR NBC ATTACK	X	
10	IMPLEMENT MOPP	X	X
	DEPLOY FIXED EMPLACEMENT ALARM UNIT		X
10	REPORT CHEMICAL/BIOLOGICAL ATTACK	X	:: ::
13	PREPARE AND SUBMIT NEG 180 REPORTS	7.	X
.4	PREPARE FALLOUT PREDICTION	X	X
	READ UNIT DOSIMETERS	X	X
15	RFT INIT RADIATION EXPOSESURE DOSE	¥ X	X ·
17	READ/REPORT RADIATION DOSE RATE	X	: :
: :	PREPARE AND SUBMIT NEG 4 REPORTS	7	X
19	ESTIMATE TOTAL DOSE EXPOSURE	X	X
20	FLAN A RADIOLOGICAL SURVEY	×	X
2:	COMPUTE TOTAL DOSE	Z	¥
2.2	COLLECT/REPORT TOTAL RADIATION DOSE	Ä	:
1.3	CAL TIME OF STAY IN FALLOUT AREA	<u> </u>	X
24	CAL OFT TIME OF EXIT FROM AREA	X	X
15	REPORT/RECORD PERSONNEL DOSE RATES	· · ·	**
26	FREPARE FRIENDLY NUC/CHEM STRIKE	X	X
27	REPORT AIR ATTACK	?	
25	MAINTAIN STATUS CHART ON CHEM EQUIP	X	::
29	ADVISE ON REQUISITION/DIST OF EQUIP	X	X
31	MAINTAIN PRESCRIBED AMT OF SUPPLIES	Ÿ.	X
3.	SELECT A MOVEMENT ROUTE USING A MAP	•••	
3.3	SELECT SMOKE POT POSITIONS	X	3
33	ESTABLISH WORK AND REST INTERVALS	X	X
34	SUSTAIN OPNS (PERS.EQUIP.AMMO.ETC	X	
3 5	PREPARE FOR OPERATIONS	::	
7 <i>6</i>	PREPARE A FRAG ORIER	X	
3~	PREPARE UNIT MOVEMENT PLANS :	\mathbb{X}	
39	FREFARE A FLATOON SECTOR SKETCH	X	
39	PLAN FOR USE OF CONTROL MEASURES	\ddot{x}	
40	PREFARE AN OPERATION OVERLAY	:	

HIGH FATIFF LASK PILITIONS TO BE ATTIMATES

TYPE UNIT	: OHEMICAL UNITS	ECHELIN: PLI DECON	
PRIORITY	TASK/FUNCTION,	FORCE LEVEL MAR IN	IÇTE
41	PREPARE A SITUATION REPORT (SITREP)	X	
42	PREPARE PLT DEFENSIVE FIRE PLAN	X	
43	COLLECT/REPORT INFO - SALUATE	X	
44	REPORT INFORMTION OF INTELL VALUE	X	
45	SUBMIT SHELL, MORTAR, BOMB REPORTS	X	
46	REPORT INTERFERENCE & INCIDENTS	X	
47	MAINTAIN PERSONNEL ACCOUNTABILITY	X	
4.2	ESTABLISH PRIORITIES FOR GEN MAINT.	X	
4 9	REQUEST SUFFLIES/LOGISTIC SERVICES	X	
50	INITIATE CASUALTY REPORTING	X	
5 :	PROCESS EPW. CAPTURED DOC & EQUIP	X	
5.2	ENCODE DECODE MESSAGES	Х	
53	PREPARE FOR FUTURE OPERATIONS	X	

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: CHEMICAL UNITS ECHELON: FLT SMOKE

PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
1	PLAN/PREPARE/SUSTAIN SMOKE OFN	Х	X
2	ANALYZE TERRAIN USING METT-T	X	
3	ENVIORNMENT EFFECTS ON SMOKE/DECON	** **	X
4	PERFORM NUC VULNERABILITY ANALYSIS	X	X
5	EST QTY OF FUEL/FOG OIL REQUIRED	Х	Х
6	DETERMINE SMOKE POT REQUIREMENTS	X	Х
7	DEV STORAGE REQUIREMENT FOR FOG OIL	Χ	$\ddot{\ddot{\lambda}}$
8	PREPARE FOR OPNS IN NBC ENVIRONMENT	X	X
9	PREPARE FOR NBC ATTACK	X	X
10	IMPLEMENT MOPP	X	X
• •	POSITION OF FIXED ALARM UNITS	X	X
12	REPORT CHEMICAL/BIOLOGICAL ATTACK	X	$\ddot{\lambda}$
1.3	PREPARE/DISSEMINATE NBC 1/2 REPORTS	X	X
14	MAKE SIMPLIFIED FALLOUT PREDICTION	Ä	X
15	READ UNIT DOSIMETERS	X	Х
16	RPT INITIAL RADIATION EXPOSURE DOSE	X	X
17	READ & REPORT RADIATION DOSAGES	X	Х
	PREPARE/DISSEMINATE NBC 4 REPORT	X	X
19	EST TOTAL DOSE EXPOSURE		X
20	PLAN A RADIOLOGICAL SURVEY	Х	X
- 1	COMPUTE TOTAL DOSE		X
22	COLLECT/REPORT TOTAL RADIATION DOSE	X	X
23	CAL TIME OF STAY CONTAMINATED AREA		Ξ.
24	CAL TIME OF EXIT FROM FALLOUT AREA		X
25	RPT/RECORD PERSONNEL DOSE RATES		X
36	PREPARE FOR FRIENDLY NEC STRIKE	$\ddot{\lambda}$	••
<u> </u>	REPORT AIR ATTACK	X	X
29	MAINTAIN CHEM EQUIP STATUS CHART	X	X
29	ADVISE ON REQUDIST OF NEC EQUIP	X	X
30	MAINTAIN PRESCRIBED AMT OF SUPPLIES	::	X
-31	SELECT A MOVEMENT ROUTE USING A MAR	$\ddot{\lambda}$	X
32	ADVISE ON USE OF SMOKE		\mathbb{X}
33	SELECT SMOKE POSITIONS	7	X
74	RECOMMENDED WORK/REST INTERVALS	X X X	::
3 =	POSITION EQUIPMENT & MATERIAL	∷ :	X
36	SUSTAIN OFNS (PERS,EQUIP,AMMO, ETC)	X	
37	PREPARE FOR OPERATIONS	X	
3 a	REQUEST SUFFLIES & LOGISTIC SERVICE	$\ddot{\mathbb{R}}$	
39	PREPARE A FRAGMENTARY ORDER	X	••
40	PREPARE/FLAN UNIT MOVEMENT FLANS	X	

HIGH PAYOFF TASK FUNCTIONS TO BE AUTOMATED

TYPE TWIT: CHEMICAL TWITS ECHELON: BUT SMOKE

EBIOBINA	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
4 1	PREFARE A PLT ELEMENT SECTOR SKETCH	•••	
÷2.	FLAN FOR USE OF CONTROL MEASURE	<u></u>	
43	PREPARE AN OPERATIONS OVERLAY	X	
44	PREPARE SITUATION REPORT (SITREF)	X	
4.5	PREPARE A DEFENSIVE FIRE PLAN	X	
45	COLLECT/REPORT INFORMATION - SALUTE	X	
47	REPORT INFORMATION OF INTEL VALUE	X	
43	SUBMIT SHELL, MORTAR, & BOMB REFORT	X	
43	REPORT INTERFERNCE AND INCIDENTS	$\frac{1}{\lambda}$	
ĒĢ	MAINTAIN PERSONNEL ACCOUNTABILITY	X	
<u>.</u> :	ESTABLISH PRIORITIES FOR GEN MAINT.	v.	
£2	INITIATE CASUALTY REPORTING		
53	PROCESS EPW. CAPTURED DOC/EQUIP	y Y	
E 4	ENCODE/DECODE MESSAGES	v. V	
- 7	FREPARE FOR FUMBER OPERACIONS	v V	

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT	: CHEMICAL UNITS	ECHELON: PLT	SMORE DECOM
•			
PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
	DI MUNICIPALITA COMPANIA CONTRA CONTR		
	PLAN/PREFARE/CONTROL NBC OPERATIONS	<u> </u>	X
₹	ANALYZE TERRAIN USING METT-T	<u>"</u>	••
3	EFFECT WEATHER/TERRAIN ON NBC/SMOKE	<u> </u>	X
4	PERFORM NUC VULNERABILITY ANALYSIS	X 	X
5	EST. QUANTITIES FUEL/FOG OIL NEEDEL	Ä	X
6	DETERMINE SMOKE POT REQUIREMENTS	X	X
	DEV STORAGE REQUIREMENT FOR FOG OIL	X	Х
8	DET PERSONNEL REQUIRED FOR DECON OF	X 	X
3	FORECAST DECON MATERIAL REQUIREMENT	X	X
10	DEV. STORAGE REQUIREMENTS FOR DECON	Х	X
11	PREPARE FOR OPN IN NBC ENVIRONMENT	Ä	X
	PREPARE FOR A NBC ATTACK	X	Х
	IMPLEMENT MOPPS LEVELS	X	X
14	POSITION OF FIXED ALARM SYSTEMS	X	X
15	REPORT CHEMICAL/BIOLOGICAL ATTACK	X	X
16	PREPARE/DISSEMINATE NBC 1/2 REPORT	X	X
17	MAKE SIMPLIFIED FALLOUT PREDICTION	Х	Х
18	READ UNIT DOSIMETERS	X	X
19	RPT INITIAL RADIATION EXPOSURE DOSE	X	X
20	READ & REPORT RADIATION DOSAGES	Х	X
	PREPARE/DISSEMINATE NBC 4 REPORT	X	X
23	EST TOTAL DOSE EXP. IN FALLOUT AREA	X	X
23	FLAN A RADIOLOGICAL SURVEY	X	:
24	COMPUTE TOTAL DOSE	X	X
25	COLLECT/REFORT TOTAL RADIATION DOSE	X	X
26	CALCULATE TIME OF STAY IN FALLOUT	**	X
27	CAL OPT TIME OF EXIT FROM AREA	X	X
26	RPT/RECORD PERSONNEL DOSE RATES	X	X
29	PREPARE FOR FRIENDLY NBC STRIKE	X	X
30	REPORT AIR ATTACK	X X	X
31	MAINTAIN CHEM EQUIP STATUS CHART	X	:
	ALVISE ON REQUDIST OF NBC EQUIP	Σ	X
3.3	MAINTAIN PRESCRIBED AMT OF SUPPLIES	X	**
34	SELECT A MOVEMENT ROUTE USING A MAP	X	••
35	ADVISE ON USE OF SMOKE FOR UNIT OPS	# # # # # # # # # # # # # # # # # # #	"
35	SELECT SMOKE POSITIONS	X	X
37	SELECT & REPORT DECONT SITE	· · · · · · · · · · · · · · · · · · ·	• • • • • • • • • • • • • • • • • • •
38	ESTABLISH WORK AND REST INTERVALS	;	X X
3 3	POSITION EQUIPMENT & MATERIAL	::	
45	DETERMINE FIELD SERVICE SUPPORT	;; ;;	: :
•	த்துக்கு முரு நிறியுக்கும் இது இருவரும் படிய இது இருவரும் இது இருவரும் இது இது இருவரும் இது இது இருவரும் இது இ	*	••

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: CHEMICAL UNITS ECHELON: PLT SMOKE DECON PRIORITY TASK/FUNCTION FORCE LEVEL MFA UNIQUE PREPARE A FRAGMENTARY ORDER X PREPARE/PLAN UNIT MOVEMENT PLANS Х PREPARE A PLT/ELEMENT SECTOR SKETCH Х 43 Χ 44 PLAN FOR USE OF CONTROL MEASURES Х Х 45 PREPARE AN OPERATIONS OVERLAY PREPARE A SITUATION REPORT (SITREP) PREPARE PLT DEFENSIVE FIRE PLAN 47 Х COLLECT/REPORT INFORMATION - SALUTE REPORT INFORMATION OF INTEL VALUE Χ Χ 50 SUBMIT SHELL, MORTAR, BOMB REPORT X REPORT INTERFERNCE AND INCIDENTS Х 52 MAINTAIN PERSONNEL ACCOUNTABILITY 53 ESTABLISH PRIORITIES FOR GEN MAINT. 54 REQUEST SUPPLIES & LOGISTIC SERVICE INITIATE CASUALTY REPORTING FROCESS ENEMY PRISONERS OF WAR 56 ENCODE/DECODE MESSAGES PREPARE FOR FUTURE OPERATIONS

HIGH PAYOFF TASH/FUNCTIONS TO BE AUTOMATED

TYPE UNIT	: CHEMICAL UNITS	ECHELIN: INI	CHEM IM CA JE
PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
1	PREPARE ENEMY/FRIEND SITUATION MAP	X	
2	PREFARE NEC SITUATION MAP & OVERLAY		2.
3	ADVISE THE CDR ON NEC SITUATION	X	$\ddot{\mathbb{H}}$
4	PLAN/PREPARE/CONTROL SMOKE OPNS	\mathbf{Z}	Ä.
5	PLAN/DIRECT NBC RECONNAISSANCE OPNS	X	X
	PLAN BIOLOGICAL SAMPLING OPERATIONS	X X X	X
	PLAN/PREFARE NBC SURVEY	X	X
8	PLAN/SUSTAIN DECONTAMINATION OPMS	$\ddot{\lambda}$	\mathbb{X}
	FLAN FOR USE OF NBC WEAPONS	::	3.
	PLAN FOR USE OF CONTROL MEASURE	X	
	EST QTY OF FUEL/FOG OIL REQUIRED	X	::
10	PETERMINE SMOKE POT REQUIREMENTS DEV STORAGE REQUIREMENT FOR FOG DIL	X.	X
13	DEV STORAGE REQUIREMENT FOR FOG DIL	X X	X
14	DET PERSONNEL REQUIRED FOR DECON OF	X	\vec{x}
15	FORECAST DECON MATERIAL REQUIREMENT	X	X
15	DEV STORAGE REQUIREMENT FOR DECON	X.	X
17	TASK ORGANIZE NBC UNITS	X .	Х
18	FREPARE FOR OPERATIONS	X	
19	FREFARE FOR OFMS IN NBC ENVIRONMENT	Х	:
20	ANALYZE TERRAIN USING METT-T	Х	
	EST ENVIRONMENT EFF ON NBC/SMOKE OF	X X X	X
	ANALYZE VULNERABILITY TRP POSITION	X	X
23	ANALYZE POSITION OF NBC ALARM UNITS	X	Σ.
24	ADVISE ON USE OF SMOKE FOR UNIT OPS	X	\mathbb{X}
	SELECT SMOKE POSITIONS	X	$\ddot{\mathbf{x}}$
	PREFARE FOR A NEC ATTACK	Y.	X
27	IMPLEMENT MOPP LEVELS	X	::
	PREPARE WIND VECTOR PLOTS	ï.	X
	PREFARE AN EFFECTIVE DOWNWIND MSG	X X	X
	PREPARE CHEMICAL DOWNWIND MSG	X	X
	PROCESS NEG 1/1 REPORTS	Ж Ж Ж	Z
32	CALCULATE NUCLEAR WEAPONS YIELD CALCULATE GROUND DERO LOCATIONS MAKE FALLOUT FREDICTIONS	¥.	7.
13	CALCULATE GROUND BERG LOCATIONS	X	X
34	MAKE FALLOUT PREDICTIONS	<u> </u>	Α.
35	PROVIDE IMMED WARNING CONTAMINATION	X	<u>:</u>
	ABSESS TEMP EFFECTS CHEM/BIG AGENTS		Z.
	ASSESS WIND EFF CHEM/BIO OLOUD TVL		••
	CALCULATE DOWNWIND VAFIR HAZARI	X X	<u>:</u>
	MAKEKISSUE NBC 3 CHEMABIDA REFIRTE		•••
÷ :	REAL UNIT DOSIMETERS	$ec{x}$	Ξ

HIGH PAYOFF TARK, FUNCTIONS TO BE AUTOMATED

TYPE UNIT: CHEMICAL UNITS ECHELON: IND CHEM IM JAJJB FRIGRITY TASK/FUNCTION FORCE LEVEL MFA UNIQUE RPT INITIAL RADIATION EXPOSURE DOSE Z RPT RECORD PERSONNEL DOSE RATES EST TOTAL DOSE EMP. IN FALLOUT AREA Χ SELECT RADIOLOGICAL/CHEM SURVEY RTE SUPERVISE MONITORING/SURVEY OFNS PREFARE RAD/CHEM SURVEY OVERLAYS COLLECT/REPORT TOTAL DOSE RADIATION REC MAINTAIN RADIATION DOSE STATUS FREPARE/SUBMIT NBC 4 REPORT COMPUTE AIR/GND CORRELATION FACTORS READ & REPORT RADIATION DOSAGES RECORD DATA ON DA 1971-R & 1971-1-R COMPUTE TRANS/CORRELATION FACTORS DETERMINE RADIATION DECAY FACTORS THE RADIATION DATA TO DOSE RATES INTERPOLATE DOSE RATES FALLOUT AREA DET DOSE RATE CONTOURS FROCESS CHEM/BIO RECON REPORTS \mathbb{X} FREPARE NBC 5 REPORT CAL TIME OF ENTRY FOR FALLOUT AREA DAL TIME OF STAY FROM FALLOUT AREA CAL TIME OF EXIT FOR FALLOUT AREA COMPUTE TOTAL DOSE MAINT RADIATION DOSE STATUS CHART DET ENEMY TARGET LOCATIONS ANALYZE NEC TARGETS FOR ENGAGEMENT X PREPARE AN OFERATION OVERLAY PREPARE FOR FRIENDLY NBC STRIKE ANALYDE FERS & EQUIP DECON SITE ESTABLISH WORK AND REST INTERVALS ANALYZE POSITIONS OF EQUIP MATERIAL MAINTAIN NEG DEF TM PERSONNEL CHART MAINTAIN CHEM EQUIP STATUS CHART PROVILE ADVISE ON CHEM AGENTS FROVICE TECH ADVICE ON BIO DEFENSE ADVISE ON REQUDIST OF MES EQUIF SELECT A MOVEMENT ROUTE USING A MAR FREFARE FLAN UNIT MOVEMENT FLANS FEFORT INFORMATION OF INTEL VALUE BOATTA AIR ATTACK

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT	: CHEMICAL UNITS	ECHELON: INI	CHEM TM JA JE			
FRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE			
91	REPORT INTERFERNCE AND INCIDENTS	Х				
82	MAINTAIN PRESCRIBED AMT OF SUPPLIES	X	X			
83	SUSTAIN OPERATIONS (PERS, EQUIP, ETC)	X	X			
84	PREPARE A FRAGMENTARY ORDER	X	$\vec{\lambda}$			
85	MAINTAIN FERSONNEL ACCOUNTABILITY	X				
36	ESTABLISH PRIORITIES FOR GEN MAINT.	Х				
37	REQUEST SUPPLIES & LOGISTIC SERVICE	X				
8.9	INITIATE CASUALTY REPORTING	X				
89	PREFARE/POST DAILY STAFF JOURNAL	X				
90	ENCODE/DECODE MESSAGES	7				
91	PREPARE FOR FUTURE OPERATIONS	X				

HIGH FAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: CHEMICAL DET FA/FB ECHELON: IND DETACHMENT

PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
1	PLAN/SUSTAIN DECONTAMINATION OPNS	X	Х
÷	ANALYZE TERRAIN USING METT-T	A X	A X
~	EST ENVIRONMENT EFF ON NBC/SMOKE OF	X	A X
4	DETERMINE SMOKE POT REQUIREMENTS	X ,	A X
7 E	DET PERSONNEL TO PERFORM DECON MSN	Α	X
5	FORECAST DECON MATERIAL REQUIREMENT	Х	X
7	DEV STORAGE REQUIREMENT FOR DECON	ž Ž	X
, 8	PREPARE FOR OFNS IN NBC ENVIRONMENT	A X	A X
о Э	PREPARE FOR A NBC ATTACK	X	A X
10	IMPLEMENT MOPP LEVELS	X X	x X
11	POSITION FIXED ALARM UNITS	X X	A X
12	REPORT CHEMICAL/BIOLOGICAL ATTACK	A X	
13	FREFARE AND SUBMIT NBC 1/2 REFORTS		X X
.s 14		X	
	MAKE SIMPLIFIED FALLOUT PREDICTION	X	X
15 : a	READ UNIT DOSIMETERS	Х	Х
16	RPT INITIAL RADIATION EXPOSURE DOSE	X	X
17	READ/REPORT RADIATION DOSAGES	X.	Х
18	PREPARE AND SUBMIT NBC 4 REPORTS	X	X
19	EST TOTAL DOSE EXP. IN FALLOUT AREA	X	Х
20	PLAN A RADIOLOGICAL SURVEY	X	X
2:	COMPUTE TOTAL DOSE	Х	X
2.2	COLLECT/REPORT TOTAL RADIATION DOSE	Х	X
23	CALCULATE TIME OF STAY IN FALLOUT	У	X
24	CAL OPT TIME OF EXIT FROM AREA	X	Х
25	RFT/RECORD PERSONNEL DOSE RATES	χ	X
26	FREPARE FOR FRIENDLY NBC STRIKE		X
27	REPORT AIR ATTACK	Х	X
23	MAINTAIN UNIT CHEMICAL EQUIP STATUS		X
23	ADVISE ON DIST. OF NBC EQUIP/SUPPLY	•	X
3)	MAINTAIN PRESCRIBED AMT OF SUFPLIES	$\ddot{\chi}$	
3.	SELECT A MOVEMENT ROUTE USING A MAP	X	
3.2	SELECT SMOKE POT POSITIONS	X	X
33	REPORT DECONTAMINATION SITE	Х	X
· 3 ÷	ESTABLISH WORK & REST INTERVALS	X	Ξ
35	FOSITION EQUIPMENT & MATERIAL	$\ddot{\lambda}$	X
36	SUSTAIN OPERATIONS (PERS.EQUIP.ETG)	X X X	∷ .
3~	PREPARE FOR OFERATIONS	\%	
7.2	PEQUEST SUPPLY 9 LOGISTICAL SERVICE	X	
7.5	FREFARE A FFAGD		
4 7	FREPARE PLAN UNIT MOVEMEND FLAN	X	

HIGH FAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT	: CHEMICAL DET FA/FB	ECHELON: IND	DETACHMENT
PRICRITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
41	PREPARE A PLT/ELEMENT SECTOR SKETCH	Х	
42	PLAN FOR USE OF CONTROL MEASURE	7	
43	PREPARE AN OPERATION OVERLAY	X	
44	PREPARE A SITUATION REPORT (SITREF)	X	
45	PREPARE A DEFENSIVE FIRE PLAN	X	
46	COLLECT/REPORT INFORMATION - SALUTE	X	
47	REPORT INFORMATION OF INTEL VALUE	Х	
48	SUBMIT SHELL, MORTAR, & BOMB REPORT -	Х	
49	REPORT INTERFERNCE AND INCIDENTS	X	
50	MAINTAIN PERSONNEL ACCOUNTABILITY	X	
51	ESTABLISH PRIORITY FOR MAINTENANCE	X	
52	INITIATE CASUALTY REPORTING	Х	
• 53	FROCESS ENEMY PRISONERS OF WAR	Х	
54	ENCODE/DECODE MSG BY TAC OPS CODES	X	
55	PREPARE FOR FUTURE OPERATIONS	X	

SECTION II. IDENTIFICATION OF HARDWARE REQUIREMENTS

STREMERITY OF HARLWARE REQUIREMENTS

CANDIDATE SOLUTIONS

ECHELON: BX COMMAND SECT OPERATOR: BX CIR TYPE CYIT: CHEMICAL UNITS

HIGH PAYOFF TASKS TO BE AUTOMATED			HARDY	VARE OF	ERATIO	NAL CAPA	13:11:7?	•								
	DEA ILEX												••••			
	;	PCU (V1/V2) OR TCU (V1/V2)														
	10 X	ACT DIS-		FMT FXET REM	FREE TEXT	AUDIO/ VISUAL ALERT	FRO- CESS IATA	STORE	DIGITAL -MAF -BACKGRI	POS/ NAV DATA	ATTO TGT TACQ	PTUFUI ECENECE INFUI	TOB SEN FREE DRW GRAPHICS	PROC DATA PRIS		
EVALUATE MISSION	: 3	3	3	:	::	•	3	:	3			: 4	3	,		
CONSIGN PRELIMINARY MISSION ANAL.	. 3	3	, 3		. :	: 1	3	. 3	. 3	2	1	÷	3	2		
DEV TASK ORGANIZATION/CONCEPT OF OF	: 3	: 3	: 3	,	11	: :	3	3	3	:				:		
FORMULATE TENTATIVE PLAN	. 3	: 3	. 3	,		1	3	: 3	3		:		. 1			
FLAN MANEUVER CONTROL MEASURES	. 3	3	3				. 3	3	3	: 2		2	2	- 2		
ISSUE OPORI	. 3	. 3	; 3	; 3	: 2		. 3	. 3	. 3	, 3		3	4	- 3		
PREPARE FOR OPERATIONS	: 3	3	3	: 4	•		1 3	. 3	. 3	. 3		3	. 1	3		
SUBTRACT & COORDINATE BY OPERATIONS	. 3	3	: 3	. 3			3	: 3	. 3	3	, :	3	2	3		
CONTROL UNIT OPS BY GRAPHIC CONTROL	: 3	2	3	1 2	:		3	3	3	3	_	3	٥ -	3		
ISSUE FRAGO	: 3	3	7	. 3	2		3	. 3	3	• 3		7 3	A *	3		
REPORT THREAT	3	3	, 3	. 3	. 6		3	3	. 3	3		3	3	3		
MAKE SPOT REPORTS	: 3	. 3		: 3	2		• 3	3		3	:			3		
BPT BOYS, SHELL, ROCKET, AUBCRAFT FIRE	3	. 3	:	. 3	2		3	. 3	3	7			3	3		
REFORT SAEDA	. 3	. 3		2	3	: :	3	3	:	2		•	3	•		

HARDWARE SOLUTION: ISES SC 'S3

RATING SCALE:

- 1 NO CONTRIBUTION 0 MODERATE CONTRIBUTION 3 ESSENTIAL CONTRIBUTION

SWOITTICS STATIONS

TYPE TWIT: PHENICAL TWIPS				ECHEL		(31 3 3 0)	IIN		JFEEAT.	£: }	BN 31			
HIGH PAYOFF TASKS TO BE AUTOMATED	:		HARD	WARE O	PERATIO	NAL CAF	ABILITY							
	DEA 112M													
		PCU (V1/V2) OR TCU (V1/V2)												
	un'i													
	OPER OPER	:DIS-	OPN:GRAP		FREE TEXT XSG	ATBIO/ STATESTAL		STORE DATA	LIGITAL MAP (BACKGRO)	POS/ NAV DATA	AUTO ITGT IACQ	BTLFLD BORZES BYFTT	COH SEN COM DRW PHICS	PROC DATA: BUS
	ı	ı	ť	;	•		į							
EVALUATE MISSICM	: 2	: 3	. 3	1 1	1	:	3	3	3	2	:	2	. 3	. 2 :
FORMULATE TENTACIVE PLAN	: 2	3	: 3	, :	1	1	: 3	- 3	3	1		. 2	3	. 2
PLAN MANEUVER CONTROL MEASURES	1.2	: 3	: 3	1 1	1 1		3	3	3	. 2	: :	2	. 2	. 2 1
FORECAST LOSSES	: 2	3	: 2	: :	:	: :	3	3	2	2	:	2	2	ů ·
COGEDINATE WITHIN EN HEADQUARTERS	. 2	1 2	1 1		; :	1	• :	; ;		•	:		•	
PREPARE FOR OPERATIONS	; 2	: 3	, 3	: 2	. :	:	3	3	3	3		3	:	. 73
CONTROL INIT OPS BY GRAPHIC MEASURE	1.2	: 3	, 3	1 :			3	. 3	3	• 3		3	3	3
MAINTAIN MOVEMENT PLANS & SOPE	:	, 3	2		•		. 3	3	:			:		
PRICES EPW	; 2	. 3	: :	; 3	- 2	. :	: 3	3	. 2	ā.	•			2

HARDWARE SOLUTION: USES \$2/83

REFORT SAEDA INCIDENTS

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CANDITATE SOLUTIONS

TYPE INIT: CHEMICAL UNITS ECHELON: BN SO/83 SECT DEERATOR: BN SO/83

HIGH PAYOFF TASKS TO BE AUTOMATED	:		HARDY	IO EEAV	PERATIO	NAL CAPA	EILITY	!						
				TEX										
			FCU	71/V2	0R T	Ca (A1\A	(2)							
			Hac											
	.0%		GRAP	:TEXT	TEXT	AUDIO/ :VISUAL :ALERT	PRO- CESS DATA	STORE DATA	DIGITAL MAP BACKGRD	FIE NAV DATA	AUTO TGT 'ACQ	: XPTT ::XPTT		PROC DATA BUS
EVATUATE MISSION	: 2	3	. 3	1	: 1	•	3	. 3	3	:	2	÷	3	: 2
ANALYZE TERRAIN USING METT-T	: 2	: 3	. 3		•	. :	2	2	3	î.	`		3	2
CONDICT PRELIMINARY MISSION ANAL.	. 2	; 3	: 3	. :	1.1		: 3	. 3	. 3	÷		-	7	٥
EST ENVIRONMENT EFFECTS ON MEC OPMS	: 2	' 3	. 3	. 3	2	. 2	3	: 3	3	3	•	3	:	3
ANALYSIS OF FRIENDLY TRP POSITIONS		3	; 3			. :	1 3	: 3	3	. 2	:		3	2
PREPARE INTELLIGENCE ESTIMATES	. 2	: 3	: 3	: :	1 1	: :	3	. 3	7	:		2	3	-2
PREPARE ANALYSIS OF AREA OF OFMS	: 2	3	2	: 1	. :	1	4 3	; 3	. 3	: 2		2	3	:
FORMULATE TENTATIVE PLAN	: 2	. 3	: 3	1		1 1	: 3	3	. 3	2		2	3	2
FREPARE EN OPERATIONS ESTIMATE	; 2	3	; 3		: :		: 3	: 3	3	2	:		3	:
DEV TASK ORGANIZATION/CONCEPT OF OP	. 2	1	: 3	1 1	:	: :	3	: 3	•	:				
TASK CRGANIZE NEC UNITS		: 3	2			: :	• 3	. 3					•	
PLAU MANEUVER CONTROL MEASURES	2	3	. 3		1		3	7	3				<u>`</u>	3
CHIAIN PROCESS/ISSUE INTEL INFO	2	. 1	1	3	3			3	3	3		3	<u>^</u>	3
GOSSINATE WITHIN BN HEADQUARTERS	2	·			•	•								
MAINTAIN ENEMY FRIENLLY SIT MAP	• •		. 3		•	•	. 3	3	3	3		3	3	3
PREPARE NBC SIT MAPS & OVERLAYS	. 1	3	3	•	. :		3	:	3	:		:	:	3
	-	7	3	ō	•		•	3	3				2	1
PLAN/PREPARE FOR NBC RECONNAISSANCE	5	7	3			,	7	3	3	:		:	3	
PLAN FOR BIOLOGICAL SAMPLING	- 2	3	3	:			: 3	1	el company el				:	
PLAN/PREPARE FOR NEC STRVEY	2	3	7				3	:	3				:	
FLAN FREFARE FOR MEC STEVEY	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3	3		:	:	3	3	3			3	1	3
PLAN FOR USE OF CONTROL MEASURES		3	3			1	3	3	3					1
EST GTY OF FUEL/FOG CIL REQUIRED		. 3							1					
TELEBNINE SAOKE ECO BESCHERENIS	•	7	7	,	,	•	1	3	3	3		3	:	3
DEV STORAGE REQUIREMENT FOR FOR CIL	·		:	•	·		:	3						:
THE PERSONNEL REQ TO DO DECON TASKS						:	3	3		:				
FIREDAST DECON WATERIAL REQUIREMENT		3	:		2		3	1						
DEV STORAGE REQ FOR DECONTAMINANTS		3		-	-		3	3				_		
FREFARE FOR OPNS IN A NEC ENVIR.	•	1	3	:	2	:	3	3	3	3		-	1	
PREFARE AN OPERATIONS OVERLAY	•	3	:	•	-	•	3	3	;	7	-	3	3	1
PREFARE AND ISSUE INDERS	•	7	7	7		•	-	7	:	•	-	:	-	-

CANDIDATE SCLUTIONS

ECHELON: EN SOYSS SECT CEREATOR: EN SOYES TYPE CAIT: CHEMICAL CAITS

HIGH PAYOFF TASKS TO BE AUTOMATED	:		WCRAH	O EFAN	PERATIO	NAL CAP	ABILITY	!						
	;		DEV :	TEX										
	!		PCU ((V1/V2)	OR ?	CU (V1/)	V 2)							
	;		HTT						•					
	. 07		GRAP		TEXT	AUDIG/ VISUAL ALERT	CESS	DATA	DIGITAL MAF BACKGRD	VAZ	737	ETURLY ESWELE LYRUR	TOH SEN FREE LRW GRAPHICS	FROC DATA ETS
	. 2	: 3	2	•	1		. 3	3	4			:		
DET DET POSTION FOR MEG ALARM EQUIP	. 2	: 3	. 3		:		. i	3	3	3		:		3
			3		• :	: :	. 3	3	3	3		3		3
ADVISE USE OF SMIKE IN EMULYIT OPNS ANALYSIS TO SELECT SMOKE POSITIONS CONTRIL SMOKE OPERATIONS	1.2	3	7	:	:		3	3	:	3		3	3	3
CONTROL CHOKE OPERATIONS	. 2	. 3	?	2	3	Ą.	3	3	3	3	:	7	3	3
FREPARE FOR MEC ATTACK	. 2	3		3	2	3	3	3	:	:		3		- 3
IMPLEMENT MOPP	2	3	•		. 2	2	3	3		:			3	
FREFARE WIND VECTOR PLOTS	: 1	3	. 2	: 2	:	1	3	3	2	2		3	:	3
FREFARE EFFECTIVE DOWNWIND MESSAGE	4	. 3		3	۸		3	3				_		
PREPARE/ISSUE CHEM ICWNWIND MSG	2	3		3	2		7	3	1		:	•		
FREFARE PROCESS MBO 1 % 0 REPORTS	-	3	3	3	2	3	-	7	:	1		3		3
CALCULATE NUCLEAR WEAFONS YIELD	2	3	3				3	1	3					•
DALCULATE GROUND DERV LOCATIONS			3				- 1	7	3	•			.	į
PREPARE/LESTE FALLOUT PREDICTION	. 5	-	;	•	•	•	3	1	1	•		•		3
IXXELIATE WARNING OF CONTAMINATION		3	3	1	5	•	7	3	:	•		:	-	7
THE TEMP EFFECTS ON CHEM-BIG AGENT		3	•	•	-	•		-		-	•	,	;	7
DET WIND EFF ON CHEM/BIO CLOUD TWL	r r	~	5		•	:	- -	•	:		•	7	:	7
CALCULATE DOWNWIND VAPOR HAZARD	5	7	3	•	•	:	;	1	7	•	•	7	;	1
PREFARE ISSUE NEG 3 REPORTS	9		7			•	7	:	7	;	•	÷		3
REAL UNIT DOSIMETERS	5	7	·	-	•	7	•	-	•	•	•	:	-	;
RET INITIAL RADIATION EXPOSURE 1001E		7	;	;	,	;	-	1	•	:	•	•	•	•
RPT RECORD PERSONNEL DOSE RATES	-	3	:	7	•	-	:	•	•	•	•	;	•	:
EST DOSAGE EXPOSURE IN FALLOUT AREA	2	7	7	3	•		:	7	:	:	•	•	:	:
EELECT RADIOLOGICAL/CHEM STRVEY RTE	, ·	3	7	•		•		•	•	;		-	-	•
MAKE BAI CHEM BURVEY DVERLAYE	-	7	:	•	•	•	7	;	-	;	٠	;	•	•
TOLLEGE SEPTEM COMAL RADIATION INSE	•	7	•	:		•		:	*	•	•		•	-
SEC. MAINTAIN RALIATION DARE STATUS		;	•	-	•	•	:		•	•	•	•	•	-
9987488, 9860888, 1 18809 NBC 4 RBC	•	-	:	:	:		•	:	-	-	•	-	•	•
COMPUTE ALE EMI CORRELATION FACTORS		7	•	•		•	•	•	•	•			-	
REAL AND REFIRE RADIATION DRABES	÷	;	•	•		•	:	-	•	•	•	-	•	-
RECORD DATA ON DA 1971-R & 1971-R	-		•	-	•	•	-	-	:			٠	•	
nii in ana ana ana ana ana ana ana ana a	•	-	-			•	÷	-	-					

CANDITATE SOLUTIONS

STIME CASIMERS STIME ERVE ECHELON: BN 81 83 SECT IFERATOR: EN 81 83 HARDWARE OPERATIONAL CAPABILITY HIGH PAYOFF TASKS TO BE AUTOMATED DEV ITEM PCU (V1/V2) OR TCU (V1/V2) CREB ACT CRE FMT FREE LATRIC PRO- STORE (DISITAL PER) AUTO ETURED TOE SEN CON DIST GRAP CHEXT TEXT VISUAL CESS DATA MAS NAV TOT SENEUR FREE IEW IATA :::::: MOVE PLAY HICE MSG MSG DATA : BACKGED JEATA ACC COMPTIE TRANS-CORRELATION FACTORS DETERMINE RADIATION DETAY FACTORS CONVERT RAD DATA TO GNI LOSE RATES DET DOSE HATE IN FALLOUT AREA TET DISE HATE CONTOUR FROM HAD DATA REC PROCESS, PLOT CHEM, BID RECON RPT FEFFARE ISSUE MED 5 REPORTS CAL DIME OF ENTRY FOR FALLOUT AREA. CAL TIME OF STAY IN FALLOUT AREA TAL OFF TIME OF EXIT FROM FALLOUT DIMPUTE TOTAL 198E PREPARE RADIATION DOSE STATUS CHART DETERMINE ENEMY TARGET LOCATIONS FREFARE FRIENDLY NUC/CHEM STRIKE ESTABLISH WORK & REST INTERVALS PREPARE CHIT MOVEMENT PLAN WAINTAIN NED DEF TEAM PERS CHARTS MAINTAIN CHEM EQUIF STATUS CHART ACTION IN THEM ABENTS COMPOUNTS PROTOCOL ACTION OF IN BUILDINGAL TER ADVISE STEELY COST OF NEC EQUIP CONTROL & COORDINATE BN GESEATIONS CONTROL UNIT OPN BY BRAFFIC CONTROL FREFARE CREUE FRAGMENTARY (ROER 123:11 783217 REFIEL ALE ATTACK TELLE INTERESTED & INCIDENCE STEPRE TORS BASY RET BOMB (SHELL ROOMET ADROBAFT FORE PROCESS IFW PRINCESS NACTURES CONSUMENTS & EQUICA

CANDIDATE SILTTICAS

TYPE UNIT: CHEMICAL UNITS					X: 3)		1111		DEERATO	ā: B	N E1 S	3		
HIGH PAYOFF TASKS TO BE AUTOMATED						NAL CAPA								
	:		DEV I											
						100 (V1-V			,					
			HTV											
	:03	:DIS-	:OPN :GRAP :HICS		TEXT	AUDIO/ VISUAL ALERT	3230	DATA	DIGITAL MAP BACKGRD	NAV	737	BEMBOR	TOR SEN FREE DAW GRAPHICS	IATA:
REPORT BAELA INCIDENTS PREPARE/POST DAILY STAFF JOURNEL ENDIDE DEDIDE MESSAGES	2 2 2	3 3 3	1	2 2 3	3		3 3 3	3		· ·	•	, • • •	3	3
FREFARE FOR FUTURE OPERATIONS	2	3	. 3	2	•	:	1	3	3	:	-	-	3	

HARIWARE SOLUTION: FOT (71)

BATING BOALE:

- . NO CONTRIBUTION C MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

J-II-7

PANDITATE SOLUTIONS

TYPE UNIT: CHEMICAL UNITS ECHELON: EN S4 SECTION DEBATCE: EN S4

HIGH PAYOFF TASKS TO BE AUTOMATED	•		HARD	VARE OF	ERATI:	NAL CAP	ABILIT	Y						
	;		DEV :	TEX										
	;		PCT	V 1/V2	0R ?	105 (A1\)	V2)							
	, 		HTT				• • • • • • •		•					
	OFER ON	:DIS-			FREE TEXT	AUDIO/ VISUAL ALERT		DATA	DIGITAL MAP BACKGRD	YAV	:797	etufil Sengar Ingut	TOB SEX FREE DRW GRAPHICS	FROO JATA BUS
EVAULATE MISSION	. 2	3	3		. 1		. 3	3	3	2		:	3	1
FORMULATE TENTATIVE PLAN	: 2	. 3	3	. :	. 1	2	3	3	3	÷	. :	*	3	÷
PREPARE A LOGISTICS ESTIMATE	2	: 3	: 3	: :	. :		3	3	3		•	2	3	2
PLAN & COORDINATE LOGISTICAL SET	1.2	. 3	. 3	; 3			3	3	3	3		:	1	:
PLAN MANEUVER CONTROL MEASURES	. 2	3	3		•		3	3	3	:		-	2	
COORDINATE WITHIN BN HEADQUARTERS	2				•	· · ·		:	:	:			:	- :
MAINTAIN MOVEMENT PLANS & SOFs	. :	3	2		:		3	3	5					:
FREFARE FOR OPERATIONS	: 2	3	3	2	. :		, 3	3	:	3		3	3	3
CONTROL THIT OFN BY GRAPHIC CONTROL	2	. 3	3		. :	:	. 3	3	3	3		3	3	3
INVENTORY LIST SETS, KIT, & GUTFITS		: 3	. :		:		. 3	3		:				
MAINTAIN PROPERTY RECEIPTS & RECORD	•	3	. :				• 3	3					•	
SCHOOLE SWAAT VIALUE		3			•		3	3					•	
FECCESS MATERIAL READINESS REPORTS	2	3		3	ņ		3	3						
REPORT VEHICLE/EQUIPMENT STATUS	1	. 3	:	3	2		3	3						
REPORT SUPPLY STATUS/ REQUEST SUPPLY	2	3		7	2		3	3	:	:			2	:
REQUEST BATIONS & COOR FOOD SERVICE	2	3		3	2		3	3	:			_	:	-
FARGESS REQUEST FOR AMENITION	1	3		3			3	3						
REQUEST SUPPLIES	2	3		3	:		3	3				_		
PERFORM SHAVES RESISTRATION ACTIONS	2	2		. 3	Ā		3	3	_					
TRANSACTIONS WITH SUFFICET MAINT.	. 1	3	:	3		:	3	3	•					
CETAIN RELIEF IN LOST LAMAGE EQUIP		3		3	2		1	2						
REPLAT SASIA INCIDENTS	Ā	3		-	1	-	7	7	÷				•	

HARIWARE SCLUTION: USES SI SE

RATING STALE:

- . MO CONTRIBUTION
 2 MODERATE CONTROBUTION
 3 ESSENTIAL CONTRIBUTION

CAMBLIATE SOLUTIONS ENHELON: CONE. (BERATOR: 01.018

TYPE TNIT: CHEMECAL UNITS EDHELON: OO H. DEBATIR: DI DIE

HIGH PAYOFF TASKS TO BE AUTOMATED	:		PARC	C EEAV	PERATIO	NAL CAPA	1311177	<u>:</u>						
	;		DEV	MET										
	:		PCU	V1/V2	OR 2	CU (VI/)								
			um"						•					
		:DIS-	GRAP	TEXT	TEXT	VISUAL	CESS	DATA	XA?	MAT	737	ROEWES	TOH BEN FREE IRW GRAPHICS	LATA
MAINTAIN EMEMMY/FRIENDLY SIR MAR	. 3	:	1 3			. 1	3	3	3	3		3	3	3
PLAN/FREPARE/CONTECT FOR MEC OPMS	: 3	. 3	: 3	2			3	3	3	:	:	2	3	
FLAN-PREFARE FOR NEC RECONNAISSANCE	. 3	- 3	. 3	: :	• :		3	3	3	-		-	3	2
PLAN FOR BIOLOGICAL SAMPLING	: 3	3	; 3	: :	, :	; :	3	9 77 73 73 73	3	:			3	2
PLAN PREFARE FOR NEC STRVEY	3	3	3	:		_	3	3	3			2	3	-
EVALUATE MISSION	2	. 3	: 3	1			3	3	3	4		2	. 3	2
FORMULATE TENTATIVE PLAN	: 2	: 3	- 3	1			: 3	3	3	2		2	. 3	2
PLAN MANEUVER CONTROL MEASURES	: 2	; 3	, 3	1	•	•	. 3	. 3	3	2	•	2		. 1
EST QTY OF FUEL/FOG OIL REQUIRED						: :	. 3	3	3	ē		ē	ā	
DETERMINE SMOKE POT REQUIREMENTS	3	3	7	•	-	:	-		:	7	-	;	3	
DEV STORAGE REQUIREMENT FOR FOR SIL	7	7		•	•	•	:	-	-	7	·	-		÷
DET FERSONNEL REQ TO DO DECON TASKS	7		•	•	6	•	7			•	•		•	•
FIRECAST DECIM MATERIAL REQUIREMENT	-	7	:		•	•	7		•	•		-	•	•
T. JESTO, SERVICE MARKET DE DESCRIPTION CONTRACTOR			•			•	-	-	•		•	•	•	•
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PORECAST DECIN MATERIAL REQUIREMENT DEV STORAGE REQ FOR DECONTAMINANTS TASK DEGANDES NEC UNITS DESTE DECRO	-	:	-	:	•	•	:	:	•	•	•	-	•	•
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FREFARE FOR MED OPERATIONS	=	3	3	÷	•	•	3	3	\$	٤	•	:	<u>.</u>	<u>:</u>
FREFARE FOR JENS IN AN MBO ENVIR.	3	3	3	Ç	-	. 2	3	3	3	3	•	2	3	:
ANALYZE TERRANY USING METT-T	2	3	-	-		•	-	-	3	:	:	-	3	-
EST ENVIRONMENT EFFECTS ON NEC OPNS	. 3	3	3	3		2	3	3	3	3	•	1	-	3
FAST AGLG UN EDICALIA LOD IUGIELVAS	÷	7	7		:		. :	3	. 3	2		-	3	-
127 GPT POSTION FOR NEC ALARM EQUIP	2	. 2	. 3		2	: 2	.]	3	3	3		3	-	3
CONTROL CALL GEN BA GRAPHIC CONTROL	. 3	. 1	3		•	•	3	3	:	3		3	3	3
ANALYSIS TO SELECT SMOKE FOSITIONS	. 3	3	3	. :		. :	3	3	3	3		:	:	3
REFORT NEC ATTROX	3	3		3	1.2	3	3	3		3		:		3
PREFARE FOR MEG ATTACK	3	3		3	÷	3	5 13 15 11	3		3		<u>:</u>	-	-
IMPLEMENT MOPE	3	3			1		:	3					3	
PREPARE WIND VECTOR PLOTS	3	3					-	3				:		:
PREPARE EFFECTIVE COMMUNIC MESSAGE		7	-	3			1	:	-				_	-
PREFARE CARTE CHEM COMUNING MEG		ξ,		7	-	:	7	7	•	•		•	•	•
FREIARE FRINCES MEDICAL REPERTS	-	-	7	7	- 5		-	7	•	:	÷	:		•

J-II-9

PANDIDATE SOLUTIONS

TYPE THIT: CHEMICAL UNITS ECHELON: OU HQ OPERATOR: 20 CIR HARDWARE OPERATIONAL CAPABILITY HIGH PAYOFF TASKS TO BE AUTOMATED DEV ITEM : FOU (V1/V2) OR TOU (V1/V2) ------COPER ACT COPN OFMY (FREE AUDIO) OFFICE OSCURE OSCURE FOS MAITO ETIFIC TOR SEN FROC CON CONSTRUCTION OF THE PROPERTY OF THE PROPER (MOVE | PLAY | HICS | MSG | MSG | ALERT | DATA BACKGRD DATA ACQ INFUT GRAPHICS BIS : CALCULATE NUCLEAR WEAPONS YIELD CALCULATE GROUND ZERO LOCATIONS FREPARE ISSUE FALLOUT PREDICTION IMMEDIATE WARNING OF CONTAMINATION 3 3 DET TEMP EFFECTS ON CHEMPETO AGENT 3 . 3 DET WIND EFF ON CHEM/BIO CLOUD IVL 3 CALCULATE DOWNWIND VAPOR HAZARD 3 : 3 : PREPARE/ISSUE NEC 3 REPORTS READ UNIT DOSIMETERS RPT INITIAL RADIATION EXPOSURE DOSE : 3 . . 3 RPT & RECORD PERSONNEL DOSE RATES : 3 EST DOSAGE EXPOSURE IN FALLOUT AREA . 3 . 3 : 3 . SELECT RADIOLOGICAL/CHEM SURVEY RTE . 3 EVALUEVO VEVEUS MEHONCAR EXAM 3 3 1 3 1 COLLECT/REPORT TOTAL RADIATION DOSE 1 3 RED. MAINTAIN RADIATION DOSE STATUS 3 3 3 PREPARE, PROCESS, & LESTE NEC 4 RPT 13 . 3 3 NUMBERS ASE SMD CORRELATION FACTORS 1 3 1 REAL AND REPORT RADIATION CORAGES RECORD DATA ON DA 1971-E & 1971-1-E COMPUTE TRANS-CORRELATION PACTORS DETERMINE RADIATION DECAY FACTORS 3 0000VERT RAD DATA TO GMD DOSE RATES 3 SET SOSE RATE IN FALLOUT AREA DET 1988 RATE DONTOUR FROM RAD DATA REDUPROCESS/PLOT CHEM/BIO RECON RPT 3 FREFARE ISSUE MEG 5 REPORTS DAL TIME OF ENTRY FOR FALLOTT AREA CAL TIME OF STAY IN FALLIST AREA CAL OFF TIME OF EXIT FROM FALLOUT DEMENTE TOTAL BUSE

IDENTIFICATION OF THE WARE SECTIONS

CANDIDATE SOLUTIONS

TYPE UNIT: CHEMICAL UNITS ECHELON: OU RQ HIGH PAYOFF TASKS TO BE AUTOMATED YILLIBARAD LAVOITARRO BRAWGRE PCU (VI/V2) OR TOU (VI/V2) LOPER LANT LOPN FRAT FRATE AUDIO/ PROF STORE COSIDAL FISH AUTO STUFIL TOS SEN FRACE ON ODISTOGRAP TEXT CREXT CVISUAL CESS DATA LAMP NAV TOT BENEDR FREE DRW DATA MOVE PLAY HICS LANG LANG BALERT DATA DECEMBER DATA ACQUINETT GRAPEICS BUS DECEMBER. PREPARE HADIATION DOSE STATUS CHART : 2 : 3 PREPARE AN OPERATIONS OVERLAY 3 3 . 3 3 : 3 : 3 : 2 3 PREPARE FRIENDLY NUC/CHEM STRIKE . 3 3 3 3 3 1 3 SELECT PERS/EQUIP DECON SITE ESTABLISH WORK AND REST INTERVALS MAINTAIN NEC DEF TEAM FERS CHARTS MAINTAIN CHEM EQUIP STATUS CHART ESTABLISH SUPPORT REQUIREMENTS FREPARE/PLAY UNIT MOVEMENT PLAYS 3 : 3 NOATTA HIR THORIES REFORT INTERFERENCE AND INCIDENTS 3 3 MAINTAIN PRESCRIBED AMT OF SUPPLIES . 1 . 3 : 1 : 1 . 1 3 : 3 MAKE SPOT REPORTS PREFARE A SITUATION REPORT (SITREF) 3 3 1 1 3 2 1 PPT BOMB SHELL MORTAR AIRCRAFT FIRE 3 3 3 1 1 3 2 PREPARE/ISSUE FRAGMENTARY DROER . 3 : 3 : 3 REPORT THREAT REPORT SAEDA INCIDENTS 3 3 1 3 3 1 2 3 1 1 3 2 1 MAINTAIN UNIT STRENGTH REPORTS REPORT PERSONNEL STATUS PROVICE UNIT LEVEL CASTALTY MST 3 3 2 2 3 PREFORM UNIT LEVEL GRREG FUNCTIONS CONDUCT SUPPLY TRANSACTIONS COORDINATE FOOL SERVICE/REQ RATIONS 3 3 REQUEST STEPLIES/LOGISTIC SERVICES MODIFICANCE TERRETARE INVENTER SITE, NITE, AND SUTFICE MAINTAIN PROFERTY RECEIPTS & RECORD MAINTAIN TAMME RECERSE MAINTAIN THE PLL ESTABLISE FRICKITIES FOR BEX MAINT.

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TYPE ENIT: CHEMICAL CHIES					E SILI We di	ITIINS Deg			171747	iā:	20 21 3		
TARREST VITAL										•••			
HIGH PAYOFF TASKS TO BE AUTOMATED			MEAE	VARE 01	SITAFE	SYAL CAP.	ABILIT!	!					
			DEV	TEX	· • • • • • •								
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	:		PCU	(VI/V2) 0B.1	CU (VI)	V2) 		•				
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			GRAP			.VISUAL			MAP BACKBRD		TGT ACU		FE:
DOMESTICAL MELLICOLARIZATOR DESCRIPTION SELECTION	1 2	;	:	: 3			_	3					
CONTUCT TRANSACTIONS WITH SUP MAINT LOST OR DESIROYED PROPERTY RELIEF	:	, 3	1 -	. 3	2	•	. 3	3	•	•	:	•	
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PREFARE POST DAILY STAFF COURNEL	3	3	;	2			3	3		:		•	
ENDITE TEDITE MESSAGES	3	: 3		, 3	. 3	1 1	3	3	•	•	•		
PREPARE FOR FUTURE OPERATIONS	3	. 3	3	. 2			3	3	3	3		÷	

RATING SCALE:

- 1 NO CONTRIBUTION
 1 MOTERATE CONTRIBUTION
 3 ESSENTIAL CONTRIBUTION

CAMINIATE SOLUTIONS
ECHELON: FLT DECOM

TYPE UNIT: CHEMICAL UNITS OPERATOR: PLT LEADER HARDWARE OPERATIONAL CAPABILITY HIGH PAYOFF TASKS TO BE AUTOMATED DEV ITEM PCU (V1/V2) OR ECU (V1/V2) COPER CAOR COPN CEMIN CERE CAUDION GROSS STORE CUBICAL BORN LATTE STURIES TO SEN FROM TON COIS- (GRAP STEXT STEXT STEAT) CESS DATA MAP NAV TOT SENSOR FREE DRW DATAS : SUE, SCHERR TURNI GOA: ATAI GERAGE . STEEL TEELA: SEM: SEM: PER SUE: GROWE PLAN DECONTAMINATION OPERATIONS : 3 - 3 ANALYZE TERRAIN USING METT-T 2 : 3 3 . ENVIRONENTS EFFECTS NBC & SMOKE OFN 3 DETERMINE SMOKE FOR REQUIREMENTS 3 DET FERSONNEL REQ FOR DECON TASKS : 3 : 2 ; 3 FORECAST DECON MATERIAL REQUIREMENT 3 DEV STORAGE REQ FOR DECONTAMINANTS 3 FREPARE FOR OPNS IN MBC ENVIRONMENT : 3 FREPARE FOR NBC ATTACK INSTENENT MOSS DEPLOY FIXED EMPLACEMENT ALARM UNIT -> 0 REPORT CHEMICAL/BIGLOGICAL ATTACK : 3 PREPARE AND SUBMIT NECT AND REPORTS () 3 PREPARE FALLOUT PREDICTION 3 REAL UNIT DUSIMETERS EPT CALL BADIATION EXPOSESTEE DOSE . . . READ REFORT RADIATION DOSE RATE FREPARE AND SUBMIT NEC 4 REFORCS ESTIMATE TOTAL 198E EXECUTE FLAN A BADDOLOGONAL SURVEY COMBUTE TOTAL COSE NILLENT REFUET TOTAL PARTATION 108E DAL TIME OF STAT IN FALLITY AREA CAL OFF COME OF EXCT FROM AREA REFIRED RECORD FREEDWYEL CORE RATER REFIRED FROEDT NOVOC DREW STROKE 327.27 A17 2774. VAINTAIN STATUS CHART ON SEEM EXTUR-ADVISE ON REQUIRECTION COST OF EXTUR VACUTACU EBEENBIEED AMO LE SUBBLIEE EFLECT A MINEMENT SINTE TEINS A MAS

CANTIDATE SELUTIONS

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HIGH PAYOFF TASKS TO BE AUTOMATED	:	- 	V ZEAE	NARE OF	EBATIO	NAL DAF	ABILITY	!				· • • • • • • • • • • • • • • • • • • •		
	;		DEV	TEX										
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	OPER	DIS-	GRAP	MCC	TEXT	VISUAL	0233	IATA	* 1,500 55.	NAT	737	SENSIA	25120700	FEII DATA BIS
SELECT SMOKE FOT POSITIONS ESTABLISH WORK AND REST INTERVALS SUSTAIN OPNS (FERS.EQUIP.AMMO.ETC) PREPARE FOR OPERATIONS PREPARE A FRAG CRIER PREPARE WIT MOVEMENT PLANS PREPARE A FLATOON SECTOR SKETCH PLAN FOR USE OF CONTROL MEASURES PREPARE AN OPERATION OVERLAY PREPARE A SITUATION REPORT SITREP PREPARE A SITUATION OF INTELL VALUE BEFORT INTERFERENCE & INCIDENTS MAINTAIN PERSONNEL ACCOUNTABILITY ESCABLISH PRIVATIONS FOR BEN MAINT. REQUEST SUPPLIES/LOGISTIC SERVICES INITIATE CASUALTY REPORTING PROCESS ETW. CAPTURED DOG & EQUIP FXCOLE-1500DE MESSAGES PREPARE FOR FUTURE OFERATIONS	:	, . 7	;				•	•	1	1		1	1	7
SELECT SHORE FIT FUNCTIONS		7	1 2	•	•	•	7		•	•		7	•	7
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DESIGNATION OF A TRANSPORT OF A TRAN	: 3	. 3	. 2		•	:	3	3	7	-	•	:	3	
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TRETARE LEL SUFEREN FEMARE		, ,	. 2	*		•	. 2	7	1		:	•	7	1
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TREFARE A SILVATION REPUBLICATION	3		•			•	<u>ي</u> -		•	3		3 ~	•	3
FRANCISCO CONTRACTOR FIRE FLAN		: 3			-	:	:	2	:	:		<u>:</u>	2	<u>ئ</u> -
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REPORT INTERPERENCE & INCIDENTS	3	3	•	3	-	•	÷	:	•	•	•	•	•	•
MAINTAIN PERSONNEL ACCOUNTABILITY	2	3	•	3	2	-	3	3	•	٠	•	•	•	•
ESCABLISH FRIGRICIES FOR GEN MAINT.	: 2	3	•	•	•	•	3	1			•	•	•	
REQUEST SUPPLIES/LOGISTIC SERVICES	2	. 3		. 3	2		3	:	-	-	•	•	•	-
INITIATE CASUALTY REPORTING	ĩ	. 3		3	2	•	3	:		-	•	•		•
PROCESS EPW. CAPTURED DOC & EQUIP	÷	3	•	3		•	3	3	-	-			•	:
FNOCIE LECCOE MESSAGES	3	3	:	3	3	:	3	3		•		•	•	
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EARLWARE SILUTION: ETT

- RATING SCALE: 1 WO CONTRODUCTOR 2 WHIERATE CONTRODUCTOR 3 ESCENTIAL CONTRIBUTION

TANDITATE SELECTIONS

THE UNIT: CHEMICAL UNITS			•	1)111 1)111	.X: P:	T 2220X			IFERAT	13: 1	F17 1E	ni II		
HIGH PAYOFF TARKS TO BE AUTOMATED			HARD	WARE DE	IRATI/	NAL CAF	AZILIT	:: :	• • • • • • • • • • • • • • • • • • • •	• • • • • •				
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FLAN/PREPARE/DIRECT A NEC RECON FLAN/PREPARE FOR NEC STRVEY FLAN/PREPARE FOR NEC STRVEY FLAN/PREPARE BIOLOGICAL SAMPLING LEPLOY FINED EMPLACEMENT ALARM UNIT LYSLEMENT MOPP BEFORT CHEMICAL/BIOLOGICAL ATTACK PREPARE AND STEMIT NEC 1 REPORT REAL THIT DOSINCTERS BEFORT CNIT RADIATION EXPOSITE DOSE RET & RECORD PERSONNEL DOSE RATE PREPARE AND STEMIT NEC 4 REPORT ESTABLISH ALR-BND CORRELATION FACT. HEAL & REPORT RALIATION LOSAGES BECCHI DATA ON DA 1971-R & 1971-F-R CLMEUTE THANS CORRELATION FACTORS FREPARE RALIO CHEM STRVEY UVERLAYS STEMIT NEC CONTAMINATION REFORMS SELECT REPORT EQUIP/PER DECON SITE FLAM FREFARE AREA ROTTE/CONE RECON ANALYTE TERRAIN USING METT-T CELECT A MOVEMENT ROUTE USING A MAR COLLECT REPORT INFORMATION - SALUTE FREPARE AN OPERATION OVERLAY NALL FOR ACCUSE INCORMATION - SALUTE FREPARE AN OPERATION OVERLAY NALL FOR ACCUSE INCORMATION - SALUTE FREPARE AN OPERATION OVERLAY NALL FOR ACCUSE INCORMATION - SALUTE FREPARE AN OPERATION OVERLAY NALL FOR ACCUSE INCORMATION - SALUTE FREPARE AND RESIDUAL ACCUSTORS - SERVICE	: 3	. 3	. 3	: 1		:	:	· · · · · · · · · · · · · · · · · · ·				:	4	ā
PLAY PREPARE FOR MRC SURVEY	: 3	3	: 3			, :		• •	:	•	:	•	-	
PLAN FEREALE RIOLOGICAL SAMPLING	: 3	3	3		,				7	-	•	•	•	6
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FRENARE AN OFFRANCON OUTSLAY	7	7	3			•	1	7	1	•	•		;	•
TALL TOR ACCOUNT TANDERS FIRE	7	3	. 9	•	•	3	•	7	7	:	•	-	-	:
MAINTAIN PERSONNEL APPOINTARTION	•	5		5	•	J	•	•	•	•	•	•	•	•
THE PROPERTY OF THE PROPERTY O	÷	-	:		:	,			•	:	•	•	•	
POLLECT REPORT INFORMATION - SALUTE FREPARE AN OPERATION OVERLAY TALL FOR ACCOUNT INDIRECT FOR MAINTAIN PERSONNEL ACCOUNTABILITY REQUEST SUPPLIES LUGISTICAL SERVICE ENOCES-CECCUS MESSAGES REPORT INTERPRENENTS & INDIDENTS	7	7		7	7	•		•	•	•	•	-	٠	•
REFORT INTERFERENCE & INCIDENTS	7	- 2	•			•	:	-	•	•	•	•	•	•

HARIYARI BILITIIN: HII

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- BATING SCALE:

 1 NI CONTRIBUTION

 2 MOSERATE CONTRIBUTION

 3 ESSENTIAL CONTRIBUTION

CANCIDATE SOLUTIONS

TABE DAIL: CHEMICAL CALLS ECHELON: PUT SMOKE/DECON OPERATOR: FUT LEATER HIGH PAYOFF TASKS TO BE AUTOMATED HARDWARE OPERATIONAL CAPABILITY DEN INEM PCU (V1/V2) OR TCU (V1/V2) RESERVE CLEARS SOLE CORE (SEE LATISIES EROF SERVE) FOR SERVE TWEE TWEE CORE CORE. RESOLUTION SERVE LON DISH GRAP TEXT TEXT VISUAL CESS DATA MAP NAV TOT SENSOR FREE DEW DATA: (MOVE : PLAY : HICS : MSG : MSG | ALERT | DATA : BACKGRD DATA ACC INPUT GRAPHICS BUS PLAN FREPARE/CONTROL NEC OPERATIONS : 3 ANALYZE TERRAIN USING METT-T 2 3 EFFECT WEATHER/TERRAIN ON NEC/SMOKE : 3 PERFORM NIC VULNERABILITY ANALYSIS 12 EST. QUANTITIES FUEL/FOG OIL MEEDET 3 DETERMINE SMOKE POT REQUIREMENTS : 3 . 3 DEV STORAGE REQUIREMENT FOR FOG OIL 3 3 DET PERSONNEL REQUIRED FOR DECON OP 1 3 : 2 FUREDAST DECON MATERIAL REQUIREMENT 3 : 3 : DEV. STORAGE REQUIREMENTS FOR DECON 3 BEENARE FOR DEZ IZ ZBC EZWIBOZMEZZ 3 PREPARE FOR A MEG ATTACK : 3 • 3 IMPLEMENT MOPPS LEVELS . 3 FORITION OF FIXED ALARM SYSTEMS REFERT CHEMICAL BIOLOGICAL ATTACK 3 FREPARE DISSEMINATE NEC 1/2 REPORT MAKE SIMPLIFIED FALLSON PRELICATION HEAD THAT DOSTMETERS BET INITIAL BADIATION EMPOSURE DOSE READ & REPORT RADIATION DOSAGES 3 . PREFARE/DISSEMINATE NEC 4 REPORT EST TOTAL DOSE EXP. IN FALLOUT AREA . 3 FLAN A RADIOLOGICAL SURVEY 100FTTE TOTAL 100E COLLECT REPORT DOTAL RAPIATION DOSE 3 DALDULATE TIME OF STAY IN FALLOUT . . . 3 DAL DET TIME OF EXIT FROM AREA SET SERVED PERSONNEL COSE SATES

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3

FREFARE FOR FRIENDLY NEC STRIKE

MAISTAIN CHEM EQUIF STATES CHART

MORTER SER TRIBER

CANDIDATE SOLUTIONS

TYPE THIT: CHEMICAL THITS ECHELON: FLT SMCKE DECOM IFERATOR: FLT LIACER HIGH PAYOFF TASKS TO BE AUTOMATED HARDWARE OPERATIONAL CAPABILITY PCU (V1/V2) OR TCU (V1/V2) FORER FACT FORM FAME FREE FAMILION FROM STORE DISITAL FOR AUTO SETURIO TOR SEN FON FORSE FORAP STEXT FORXT SVISUAL FORSE FOATA MAP MAY TOT SENSOR FREE DAW LATA: BACKGRD DATA ACC INPUT GRAPHICS BUS ADVISE ON REQIDIST OF MEC EQUIP : 3 MAINTAIN PRESCRIBED AME OF SUPPLIES SELECT A MOVEMENT ROUTE USING A MAP : 3 : 3 ADVISE ON USE OF SMOKE FOR UNIT OPS 3 : 3 : 2 SELECT SMOKE POSITIONS ; 3 SELECT & REPORT DECONT SITE ESTABLISH WORK AND REST INTERVALS 13 13 1 1 POSITION EQUIPMENT & MATERIAL DETERMINE FIELD SERVICE SUPPORT PREFARE A FRAGMENTARY ORDER : 3 3 : 3 : 3 : PREPARE/PLAN UNIT MOVEMENT PLANS PREPARE A PLT/ELEMENT SECTOR SKETCH . 1 . 3 . 3 : PLAN FOR USE OF CONTROL MEASURES 3 3 3 3 1 3 FREFARE AN OPERATIONS OVERLAY FREPARE A SITUATION REPORT (SITREP) PARFARE PLT DEFENSIVE FIRE PLAN 3 3 COLLEGY REPORT INFORMATION - SALVITE - 3 - 3 : 1 --REFORT INFORMATION OF INTEL VALUE 3 3 3 3 5 5 SUBMIT SHELL, MORTAR BOME REPORT 3 3 1 1 REFORT INTERFERNCE AND INCIDENTS MAINTAIN PERSONNEL ACCOUNTABILITY ESTABLISH PRIORITIES FOR GEN MAINT. REQUEST SUPPLIES & LOGISTIC SERVICE | 1 2 | 3 INITIATE CASUALTY REPORTING FRICESS EXEMY FRIEDWERS OF WAR ENDODE CECODE WESEAGES

HARIWARE BOLITION: HTT

FREDAIR FOR FITTIRE OFFIATIONS

RATING STALE:

- YOTTTELETTICS CK 1
- 2 MILEBATE CONTRIBUTION
- 3 ESCENTIAL CONTRIBUTION

CAMBIDATE SIDUTIONS
FOREIGN - NOT SHORE

TYPE UNIT: CHEMICAL UNITS				ECHEL(X: FI	IT SMOKE			OPERATO	:R:	FUT LEA	1111		
HIGH PAYOFF TASKS TO BE AUTOMATED			HARDV	WARE 0	ERATI	NAL CAP	AE:L::	 ?						
	!		 : VEC	X										
	·													
	f		PCU	(V1/V2.	03.7	107 (VI/	V2)				•			
			307						•					
***************************************	-11	ACT	v	FYT		ATTP TAY			DIGITAL	102/	,		TOH SEX	PROC
	:08	:DIS-	GRAP	TEXT	TEXT	VISUAL ALERT	CESS	DATA	YAP	NAV DATA	TGT ACQ	ROSKES	FREE DAW GRAPHICS	DATA
PLAN/PREPARE/SISTAIN SMOKE OPN	. 3		,			. ,	. 3	. 1	;	; n			7	
ANALYZE TERRAIN USING METT-T	. 9		n	•		•	3	2	7		:	•	7	0
ENVIORNMENT EFFECTS ON SMOKE/DECON	: 3	. 7	7		•		7			7	,	:		7
PERFORM NUC VULNERABILITY ANALYSIS			. 1		. •	-	7	7	7	4			1	3
EST OTY OF FUEL: FOG OIL REQUIRED	-			•	•	•		7	÷ -	5	•	•		6
DETERMINE SMOKE POT REQUIREMENTS	. 3	7		•	•		3	3	7	•	•	•	7	
	: 3	. 7) ^			•	. 3	3 7	3	3	•	÷ .	2	3
DEV STORAGE REQUIREMENT FOR FOG CIL		ر •			•	:	3	J.	. 3	3	•	-	-	
FREFARE FOR OPEN IN MEC ENVIRONMENT	: 3			1 2	2	. 2	÷	3	3	5	•	•	<u>.</u>	2
PREPARE FOR NEC ATTACK	3	: 3		3	2	3	: 3	3	2	3	•	ī	-	3
IMPLEMENT WOPP	3	: 3		•	-	•	3	3	•	•	•	-	3	2
POSITION OF FIXED ALARM THITS	' 2	2	. 3	•	-	2	. 3	3	3	3	•	3	ż	3
REFUST CHEMICAL/BIULOGICAL ATTACK	. 3	. 3	•	. 3	2	3	3	3	•	3	•	3		3
FREFARE/DISSEMINATE MPC 1/0 REPORTS		: 1	. 3	3	2	3	3	3	3	3		3	-	3
MAKE SIMPLIFIED FALLOST PREDICTION	- 3	- 3	3	. 3	2	· :	3	3	3	:	•	-		3
READ INIT DOSIMETERS	3	: 3				3	3	3	:	•		3	•	3
RPT INITIAL RADIATION EXPOSURE DOSE	3	• 3	. :	3	2	3	3	. 3	•	3		3	•	7
READ & REPORT RADIATION DOSAGES	3	3	•	; 3	2		3	3				3		3
PREFARE/DISSEMINATE NEC 4 REFORT	3	3	: 3	3	2	٥	3	3	3	:		3		3
EST TOTAL DOSE EXPOSURE	3	3	. 3	:	:		3	3	7				3	:
PLAN A BADISLOGICAL SURVEY	3	. 3	3	:	1		3	3	3				:	
COMPUTE TOTAL BOSE	3	3	· 2				3	3	:				:	
DOLLEGY REPORT TOTAL RADIATION DISE	3	3			:	-	3	•		-		;	_	7
	3 3 3	3	3			•	3	;	3	:			;	-
CAL TIME OF EXIT FROM FALLOUT AREA.	. 3	7	3			•	1	7	;	Ī	•	-	:	•
RFT RECORD PERSONNEL DOSE RATES	3										•	:	•	•
PREPARE FOR FRIENDLY MED STRIKE	•	3	3	1	•	7	:	-	3 3	•	•	-	:	-
REPORT AIR ATTACK	7	7		7	•	•	;	-	-	:	•	•	٠	:
MAINTAIN CHEM EQUIP STATUS CHART	•	7	:			• •	;	3	•	•		•	•	÷
ADVISE ON REQUOIST OF MEG EQUIP	:	7		•	•		7	3	•	•	•	•	•	٠
MAINTAIN PRESCRIBED AND OF SUPPLIES	•	7	•	;	•	•	:	3	•	•	•	•	•	•
Chialaia Indocaldal AX. of Surfulb	•	3	:	•	•	•	:	:		•	•			
SELECT A MOVEMENT ROUTE USING A MAR	3	:	3	•	•		<u>:</u>	:	:	:	•	-		:

CANDIDATE ENLITTIME

TYPE THIT: THEMIONE THITS ECHELLN: FLO SMORE CREEKTIS: FOO LEADER

HIGH PAYOFF TASKS TO BE AUTOMATED			HARIT	MARE DE	ERATIO	NAL CAFA	13:L1:T							
			CEV :	TEY										
			PCU	(V1/V2)	GR I	ou (vi v	121							
			ET											
	OPER ON MOVE	DIS-	OPN GRAP HICS			THEILS THE		STORE IATA	IIGITAL MAR BACKGRI	FIE NAV IATA	ATT: TGT ACQ	BILFLI BEN 1 LNEUT	TIH SEN FREE IRW GRAFFICE	PACE LATA BUE
ADVISE ON USE OF SMOKE	2	3	3	, 3	. 2		3	3	3	3		3	3	. :
SELECT SMOKE POSITIONS	. 3	. 3	3		i	:	3	3	3	3		3	3	
RECOMMENDED WORK/REST INTERVALS	3	. 3			. •		3	3			.]	3		;
POSITION EQUIPMENT & MATERIAL	3	3	. 3	. :			1	-	3	:	-	;	<u>:</u>	•
STSTAIN OFNS (PERS.EQUIF, AMMS, ETC)	3	3	3		:		3	3	3	1	•	3	3	-
FREPARE FOR OPERATIONS	3	3	. 3	:			3	3	3			:	;	
REQUEST SUPPLIES & LOGISTIC SERVICE	3	. 3		3	. 2		. 1	3	_	-		-	_	·
PREPARE A FRAGMENTARY CEDER	3	. 3	7	. 3	2		3	3	3	3		3	3	;
FREHARE/PLAN INIT MOVEMENT FLANS	3	3	. 3	:	•	:	1	7	•	•	•	-	-	:
PREPARE A PLT ELEMENT SECTOR SAETCH	:	3	3	•		-	3		7	-	·	-	;	7
FLAN FOR USE OF CONTROL MEASURE	3	. 3	. 3			:	•	-	-	•	·	•	-	•
PREPARE AN OPERATIONS OVERLAY	3	3	3			-	3	;	7	-	•	;	-	7
FREFARE SITUATION REPORT STOREP	3	3		1	:		3	3	•	7	•	:	•	•
PREPARE A DEFENSIVE FIRE PLAN	3	3	3	•)		;	•	•	;		=	:	•
DOLLED REFORM INFORMATION - SALTTE	3	3		1	:	į	•	-	;	;	•	•	-	:
REFIRE INFORMATION OF INTEL VALUE	3	3	3	1	-		3	7	:	;	•	:		:
STEMIT SHELL, MORTAR, & BOME SEFORT	3	3		3			;	3	:	;	•	•	:	:
REPORT INTERFERNCE AND INCIDENTS	3	:		7	:	•	;	-	-	•	•	•	-	•
WAINTAIN FERENMEL ACCOUNTABILITY		3		3	:	•	1	-	•		•	•	•	•
ESTABLISH PRICHITIES FOR JEN MAINT.	-	3			•	•	3	-	•	•	•	•	•	•
INITIATE CASTALTY REPORTING	3	•		:	•	•	3	-		:	•	•	•	•
PROPERS EPW. CAPTURED DOC EQUIP	:	-	:	•	-	•	7	-	•	•		•	•	•
EMOLIE LECLIE MESSAGES	3	3	•	7	•	•	- -	•	•	•	-	•	•	-
PREPARE FOR FUTURE CHERATIONS	-	7	3		-	•	•	-	-	•	•	•	•	٠

PARIMARE SMITTING BTT

RATING ETALE.

- 1 WIESATE MINTELENTIN
- 3 ESSENTIAL DINTELECTION

J-II-19

IDENTIFICATION OF HARDWARE FEQUIERNESS.

PANDITATE SOLUTIONS

ECHELON: INC DETACHMENT OFFICE OF DETACHMENT OF TYPE TWIT: CHEMICAL DET FARFE

CETAMOTUA EE OT SNSAT TROYATED			HARD	WARE OF	PERATIO	WAL CAF	AEILIT	:						
			DEV :	MET:										
			FOU	(V1/72)	OR T	77 71	12							
			:: #7"				• - • •							
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	WOAE CZ		GHAP		TEXT	ATDIO: VISUAL ALEAT	3223		BIGITAL MAF BACKGRD	VAV	797	SENSCE	TOH SEX FREE DEW GRAPHICS	PROCI DATA BUS
FLAN/SUSTAIN DECONTAMINATION OPENS	. 3	. 3	. 3	. :			3	<u>:</u>	3	2			3	2
ANALYZE TERRAIN USING METT-T	. 2	. 3	ż				:		3	2			3	
EST EXVISINMENT EFF ON NECKSMOKE OF	3	3	3	. 3	4	÷	3		3	3		3	2	3
	. 3	3	3			:	3	3	3	7		3	1	3
DET PERSONNEL TO PERFORM DECON MEN	3						. 3	3					_	
FORECAST DECON MATERIAL REQUIREMENT	3	3	:	. :	2		2	3		_			:	-:
LEV STORAGE REQUIREMENT FOR DECON	3	3	2		. 2	:	: 3	3	į	•	•		. 2	•
PREPARE FOR OPES IN MEC ENVIRONMENT	3	3	7	. 4	: 1	2	3	3	•	7	•	•	3	•
FREFARE FIR A NEC ATTACK	7	. 3		. 1	ě		7	7		3	:	3		3
IMPLEMENT MOPP LEVELS	3	3	•		: [2	7	•	•	· ;		·	3.	
POSITION FIRED ALARM UNITS	2		3	•	ē	•	7	7	7	7	:	7	5	
REPORT CHEMICAL/BIOLOGICAL ATTACK	3	: 3		: 3		. 1	3 7 3	7		7	. •	1	•	3
PREFARE AND STEMET MED 1/2 REPORTS	3	. 7		. 1	, -	3	1			1	•	3	7	3
	3	3		3	•		7			1	•	•	•	-
REAL COURT LIGHTERS	7			, ,	•		3 3	1	• -	-	•	•	•	•
RET INITIAL RADIATION EXECUTE DOSE	7	. 3		7		7	3		:	. 7	•			7
REAL REPORT RALIATION DISAGES	7		•	7	٠	3	3	2	•		•		•	
PREPARE AND SUBMIT NBC 4 REPORTS	7	3	7	7		-	-		•	•			•	•
EST TITAL 10SE EXP. IN FALLUIT AREA	-	-	7	٠		•	:	10 10 10 10 10 10 10 10 10 10 10 10 10 1	:	•	•		7	•
PLAN A RADIOLOGICAL SURVEY	7	7			. •	•		2	:	:	•	•	•	•
CIMPUTE TOTAL TOSE	ن 7	7	. 1	•	•	•	2	2	:	•	•	÷ .	<u>:</u>	•
COLLECT REPORT TOTAL RADIATION 1988	2	3			•	:	:	:		•	•	-	-	-
CALCULATE TIME OF STAY IN FALLIUT	-	- 1				•	7 7 7 7 7 7	:		•	•	<u>:</u>	-	:
CAL COT TIME OF EXIT FROM AREA	3	2	٠ -	.	•	•	:	:	:		•	-	:	•
	;	ن -	2	-	:	•	:	-	•	•	•	-	:	•
RETHRECORD FERSONNEL DOSE RATES	:	; •	:	÷	:		-	:		:	•	÷		:
PREPARE FOR FRIENDLY NEW STRIKE	:	:	;	:	•			-	-	-	•	-	-	-
REFIRE ATE ATTACK	:	3	•	:	-				•		•	٠	•	:
MAINTAIN UNIT CHEMICAL EQUIF STATUS	•	3	•	•	•	•	:		•	•		•		•
ADVISE ON DISTURBE NEW EQUIPMENTED		3	•	•	•		-		•	•			•	
MAINTAIN PRESCRIBED AMT OF SUPPLIES	•	:	•	:	•	•	3	3				•		
SELECT A MOVEMENT BODDE DSING A MAR-	3	3	3				3	-	3	3		:	:	:

DANDITATE SIDITIONS

THE THIT: DEEMINAL UNITS ECHELON: IND DETAINMENT IFERATING LATADEMENT OUR CETAMOTIA DE CT ENSAT TROPAS DELH HARDWARE CRERATIONAL CAPABILITY CEA LLEX POU (V1/V2) OR TOU (V1/V1) FREE AUDICA PRA- STIRE DISITAL FOR AUTI STIFLY TORISEN SECO ON FORSE GRAP TEXT DEXT VISUAL DESCRIPACIÓN MAR NAVO TOT SENSOS FREEDRAN DATA BACKORD DATA ACQ IMPUT GRAPBICS BUS MOVE PLAY HICS MSG MSG ALERT MATA BELECT SWOKE FOR POSITIONS 3 ; REPORT DECONTAMINATION SITE ESTABLISH WORK & REST INTERVALS PRINCE EQUIPMENT & MATERIAL SUSTAIN IPERATIONS PERS.EQUIP.ETO: PREPARE FOR SPERATIONS REQUEST SUFFLY & LUGISTICAL SERVICE : 3 PREPARE A FRAGO PREPARE FLAN UNIT MOVEMENT FLAN PREPARE A PUT/ELEMENT SECTOR SKETCH FLAN FOR USE OF CONTROL MEASURE PREFARE AN OPERATION CVENLAY PREPARE A SITUATION REPORT SITEEP: PRESAME A DEFENSIVE FIRE PLAN COLLECT REFORM INFORMATION - SALUTE REFORM INFORMATION OF INTEL VALUE SUBMIT SHELL, MORTAR, & BOME REPORT 3 REPORT INTERFERNCE AND INCIDENTS MAINTAIN FERSONNEL ADDOUNTABILITY ESTABLISH PRIDRITY FOR MAINTENANCE INITIATE CASUALTY REPLATING PROCESS ENEMY PRISONERS OF WAS ENDITE SERVIE WES BY TAC UPE COIES PREPARE FOR FUTURE OFERATIONS

HARDWARE EDUCTION: HTT

BATING BRALES

- 1 MILERATE MUTRIENTING
- A EBERNTIAL BOYTAGETTON

DANDIDATE SOLUTIONS ENGINEE IN THE NEED IN TAIL

THRE UNIT: CHEMICAL UNITS ECHELON: INDICHEM IN CA DEERADIS: CRAW COR HIGH PAYOFF TASKS TO BE AUTOMATED HARDWARE OPERATIONAL CAPABILITY NET I VEC : PCU (V1/V2) OR TCU (V1/V2) _____ OPER ACT OF THE THE STORE TO SERVE PRO- STORE DIBITAL FIR ANTO RELEASE TROC 10N DISH (GRAP TEXT TEXT VISUAL COSS DATA MAP XA7 TOT SENSOR FREE DRW DATA BACKBRI IATA ADQ INSUT BRASSIOS BUS SMOVE PLAY HICS MSG MSG ALERT DATA FREFARE ENEMY/FRIEND SITUATION WAR 2 3 FREEPARE MEG SITUATION MAP & OVERLAY 0.2 3 3 ALVISE THE DIE ON MED SITUATION FLAN PREFARE CONTROL SMOKE CENS 2 3 3 FLAN/CORRECT NEC RECUNNALSSANCE CENS 2 3 3 FLAN ECULOGICAL SAMPLING CHERATICUS 2 3 3 FLAM FREFARE MED SUBVEY FLAN/SUSTAIN DECONTAMINATION OFMS FLAN FOR THE OF NEC WEAPONS PLAN FOR USE OF CONTROL MEASURE . 3 EST QTY OF FUEL/FOG OIL REQUIRED DETERMINE SMOKE POT REQUIREMENTS DEV STORAGE REQUIREMENT FOR FOG OIL TET PERSONNEL REQUIRED FOR DECON OF FORECAST DECON MATERIAL REQUIREMENT 2 TEV STORAGE REQUIREMENT FOR TEGON TARK IRGANIZE NEG UNITS FREEARE FOR OPERATIONS PREPARE FOR CRYS IN MBC ENVIRONMENT T-TTEM OWIST WIASHET EDVLAWA EST ENVIRONMENT EFF ON NECHSMONE OF AMALYCE VULNERABILITY TRP RESIDION ANALYTE POSITION OF MEG ALARM INTEG ADVISE ON USE OF SMOKE FOR UNIT OPE OF PROTTIEST EXCRE TOSTTIONS PREPARE FOR A NEC ATTACK INFLEMENT WOFF LEVELS FREFARE WIND VECTOR SLOTS PREPARE AN EFFECTIVE COMMUNICATED FERRARE CHEMICAL COMMUNIC MEB

PROCEES WED I D REPORTS

		113	NTIFIO	ATION	OF EAS	IWARE RE		ENIS					
TYPE UNIT: CHEMICAL UNITS					N: 1X		N JA/		UPERAT	DA: I	EAM 01	.a	
HIGH PAYOFF TASKS TO BE AUTOMATED		·	WGRAH	ARE OI	PERATIO	NAL CAPA	VEILIEV	••••••••••••••••••••••••••••••••••••••				, -	
	:		DEA :	TEM								·	
			PCU (V1/V2) OR T	CU (VI/)	(2)						
	;		HTU						•				
	:01		GRAP	TEXT	TEXT	VISTAL	CESS	DATA		NAV	797		722 224 722 224
	: XEU V 1	FLAI	inito	: M 2:U	782 G	ALERT	JATA	;	BACKSRD	JAJA	- AUQ		GRAPHIC
CALCULATE NUCLEAR WEAPONS YIELD CALCULATE GROUND DERO LOCATIONS	2	3 3	· 3			-	3 3	3	3		•	•	3
MAKE FALLOUT FREDICTIONS	. 2	3	: 3	3	. 2		• 3	3	3	. 3		2	2
PROVICE IMMED WARNING CONTAMINATION	2	. 3	3	. 3	1	i	. 3	3	3	3		3	3
ASSESS TEXT EFFECTS CHEM/BIG AGENTS	2	: 3	. 6	:	•	:	3	3	•	•		. 3	2
ABBEBS WIND EFF CHEM/BIO CLOTE TVL	2	3	2	•		:	3	3	•		•	3	-
DALDULATE DOWNWIND VAPOR HAZARI	2	: 3	3		•	•	3	3	3	3	•	3	3
MAKE/ISSUE NEG 3 (CHEM/BIO) REPORTS		: 3	3	3	. 0	:	3	:	3	3	•	3	-
READ INIT DUSINETERS RET INITIAL RADIATION EXPOSURE DOSE	. 1	2	•	2	· •		· 5	<u>5</u> 7			•	÷	•
	2	3 3		3	4 %		1	3	•			3	•
EST TOTAL DOSE EXP. IN FALLOUT AREA	2	3	3	. :		•	3	3	3	•		:	3
SELECT RADIOLOGICAL/CHEM SURVEY RIE		. 3	3	•			3	3	3			-	
	. 2	3	3	. 2	-	3	. 3	3	2	3		3	3
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B - ESSENTIAL CONTRIBUTION

SECTION III. OPERATIONAL BENEFITS

OPERATIONAL BENEFITS (CHEMICAL UNITS)

Operational benefits gained from providing automation:

- 1. Enhances the command and control (C2) of Chemical units on the AirLand battlefield. Historically C2 of Chemical units has been a difficult proposition because of great physical separation between a Chemical unit and its parent Chemical unit (or the unit exercising control operationally). For example, the Chemical company organic to a division (when that division is not reinforced with corps-level Chemical units) typically is sited in the Division Support Area. Yet its decontamination platoons are habitually located in a Brigade Support Area in direct support of a maneuver brigade, its smoke platoon is attached to the maneuver brigade with the highest priority for smoke or it is split into squads and those squads are attached to one or more maneuver brigades or assigned a general support mission of protecting high-value targets in the division area of operations, and its NBC reconnaissance platoon is attached to the covering force or assigned general support missions performing reconnaissance to find "clean" or "least dirty" routes through contaminated areas for the maneuver forces. a division receives its typical "slice" of corps-level assets (usually a Chemical Battalion Headquarters and Headquarters Detachment and three more Chemical companies - one decontamination and two smoke), this span of control and logistics support problem does not decrease. This problem of widely-dispersed elements is compounded for the company and battalion commander who must spend 60-80% of his time away from his CP/TOC (generally out of line-of-sight communications) checking on his subordinate units. In such a typical scenario, automated decision graphics and message handling become essential to the effective command and control of Chemical units.
- 2. Logistics support of Chemical units has typically been a tremendous burden on corps and divisions because of the specialized materiel required and the quantities of such materiel needed to accomplish a typical smoke or decontamination mission. Successful resolution of this problem is very much dependent on accurate planning, strategic pre-positioning of stockpiles of decontaminants and fog oil, and timely processing of requests for resupply. Automation is essential for these tasks to support the pace of battle pre-supposed by the concept of AirLand Battle.

- 3. Standardization of automation hardware, firmware, software, and procedures will go a long way toward reducing the training, maintenance, and logistics burdens of mission-essential automation on Chemical units. More importantly it will improve their operational effectiveness by connecting them to the Maneuver Control System and the larger Army Tactical Command and Control System through the use of standard U.S. Message Text Formats (USMTFs) and links to force-level databases. These links to databases (particularly those for strength accounting, position/location, mission status, readiness status, targets, terrain, NBC reports/warnings, and meteorological forecasts/information) are crucial for the effective functioning of Chemical units and for the optimal employment of these low-density assets on the AirLand battlefield.
- 4. Record communications will be dramatically improved by automation. Heretofcre, voice message traffic has been the rule for the NBC Warning and Reporting System (NBCWRS); such messages are not databasable nor are they machine processable. The use of USMTFS, digital communications, "electronic mail", and force-level data bases will permit the virtual total automation of the NBCWRS dramatically improving the timeliness and accuracy of NBC reports and warnings. These improvements will reduce the number of NBC casualties by warning personnel and units before they encounter contamination, by helping the commander make informed decisions and take calculated risks when crossing/operating in contaminated areas, and by helping Chemical staff personnel keep track of the movement/decay/weathering of NBC hazards (whether vapor, liquid, or solid) on the AirLand battlefield.

PRODUCT TRANSPORTE FAVORABLY DESCRIBE TRACESSES FOR TRACESSES

The majority of the tasks performed by Chemical units require the use of algorithms, formulas, monograms, charts, and special slide rules. For example, vulnerability assessment, smoke and decontamination planning and execution, NBC reconnaissance data analysis and plotting, NBCWRS, identification of agents (both biological, chemical, and toxin), and nuclear and chemical target analysis are all very calculation intensive. Without automation, these tasks are difficult and time-consuming and generally (all too often) unresponsive to the needs of the commander's decision-making process. Automation will improve the information flow (which will improve the planning process) by utilizing the speed and processing power of a computer to analyze data, recommend courses of action, and prepare decision graphics so the commander can make more accurate and more timely decisions about the optimal employment of his forces to counter a threat.

Information fusion by a machine utilizing artificial intelligence techniques will be critical to support the effective functioning of weary and hungry soldiers who frequently can neither hear nor see the enemy they must engage. Such information fusion is critical for vulnerability assessments, hazard production, smoke planning, and target analysis by Chemical personnel.

6. One of the significant shortfalls in the current NBCWRS is that the Army has fielded an array of nuclear and chemical sensors which make noises and/or flash lights which must be continuously monitored) by a human being who then must submit a voice NBC 1/4 report. That message must be relayed through many echelons of command over many different communications circuits up to (at a minimum) the Chemical section in a separate brigade or division where it is processed, analyzed, and converted (using meteorological data which is frequently out of date and which does not consider the effects of terrain on the movement of air masses) where/when necessary, into a NBC 3/5 report. That NBC 3/5 report must then be disseminiated (once again by multiple voice messages across multiple communications circuits) as warnings of predicted or actual areas of contamination to the units potentially/actually affected by the hazard. The whole process can be easily stymied by the lack of a human being to generate the first report or to relay any of the reports/ warnings along the path, to the lack of a human being to process the report and convert it into a warning, the lack of near-real-time meteorological data, the lack of correct position/location information, and the failure of any one of the communications circuits along the path. Automation can connect sensors (NBC, meteorological, and position/location) to a computer which can then monitor all of these sensors, fuse information when the NBC sensor alerts, prepare the appropriate NBCWRS message, and serve as a communications gateway to automatically submit the report/warning--all without any or with minimal human intervention. This alone will accomplish something that the Army has lacked throughout its modern history; i.e., the ability to generate timely and accurate NBC reports from locations where there are no human beings, to generate reports from locations where human beings are too busy to generate an NBC report because they are actively engaged in close combat with the enemy, and to generate reports from locations where all of the human beings present have been either killed or incapacitated by an NBC attack. Further, because the NBC report is generated by a computer in the appropriate USMTF format and transmitted digitally, there is no further need for human voice relay of that report to the ultimate addressee. This will dramatically reduce the time involved to get the

report to the intended recipient and the errors introduced by multiple voice retransmissions. Finally, by introducing the requisite processing power and software to the battalion/company level automation can dramatically reduce the time to warn affected units because the turnaround time from initiation of report to receipt and processing of the report to the generation of the warning to the receipt of the warning will be reduced—just by virtue of the turnaround point being dropped below the separate brigade/division level. So by automating the sensor—to—computer—to—communications—device connection; by automating message preparation, routing, and handling in the communications system; and by lowering the message processing echelon to at least the battalion level automation can save the lives of soldiers and better maintain the fighting effectiveness of the force.

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7. Automation of Chemical platoons and NBC reconnaissance vehicles with computers which are capable of operating on the move add a critical improvement in force capability. most evident in the mechanized smoke platoon and the NBC reconnaissance units who must actually perform their mission The ability of smoke units to continuously while on the move. process threat information, meteorological data, fog oil status, and the parameters of generated and projected smoke is critical to the optimal employment of a scarce asset on the AirLand This is even more true of the NBC reconnaissance units who must be able to continuously monitor, detect, identify and report NBC hazards and meteorological data (while completely "buttoned up") as rapidly as hazards are encountered so that maneuver force commanders can rapidly exploit uncontaminated routes of march or at least take a known and calculated risk to use a contaminated route. To a slightly lesser extend, automation is important to decontamination platoons to permit them a mission planning and materiel requisitioning capability while enroute to a decontamination site. Such a capability is especially important in light of the fact that there are insufficient decontamination assets available to support the force and that these forces must be optimally employed--which generally means that they must be rapidly shifted around the battlefield to the point of greater need. Automated reporting of positioning/location information by Chemical units and those whom they must support is another essential feature for effective command and control of low-density assets. insufficient assets/optimal employment requirement drives the justification for automation support to all Chemical units on the AirLand battlefield.

SECTION IV. OPERATIONAL BURDENS

OPERATIONAL BURDENS (CHEMICAL UNITS)

The operational burdens associated with fulfilling the requirement, all or in part, are:

- Transportability. The PCU(V1) and PCU(V2) are relatively bulky sets of equipment (though certainly much better than the TCT and TCP) -- particularly when numerous peripherals are attached to the computer unit. This reduces the ability of Chemical battalion and company headquarters to displace their TOC/CP quickly and to reestablish their computer systems in the net in a new location. Since Chemical battalions do not displace very often, this is an acceptable burden; however, it is less so for a company. Added problems for the Chemical company are the bulk (particularly cube) of the PCU(V1) when it is set up and operating and the need for a vehicle to haul it during displacements. Company CPs are necessarily austere so finding space for the computer in the CP will be somewhat difficult but not impossible. The company does, in general, have sufficient transport to haul the PCU; however, load plans will have to be reworked to accommodate both its weight and cube. The computing power is considered essential (particularly since Chemical companies and battalions are separate, numbered units -- hence are generally mini-battalions and mini-brigades, respectively) and can be accommodated. This problem can probably be resolved by incorporating the PCU(V1) into the Standardized Integrated Command Post System (SICPS).
- Training. While the current generation of soldiers is certainly more computer literate than those of the past, there is still a significant training burden associated with the fielding of these computers at echelons below battalion. training base must begin now to incorporate computer literacy into the POIs of the training centers and service schools. the PCU and HTU are fielded, high priority MUST be given to providing sufficient devices to the schools so that soldiers can be trained on the equipment they will use in the field. We must avoid the situation that has occurred with the fielding of the Tactical Computer Terminal (TCT) and the Tactical Computer Processor (TCP) where almost none of these devices were allocated to the training base and then only after significant quantities had been fielded to the operational units. Such a fielding plan foists the computer literacy training burden upon the field commander who already has enough operational training and readiness problems. It also results in the training base sending such commanders soldiers who are unprepared to operate on fielded computers. While the field commander can and should be held accountable for the maintenance of an acceptable level

of automation readiness — he should not have to also shoulder the burden of initial training. SQTs must also be rewritten to ensure that both the training base and the field units are sustaining the requisite level of computer proficiency. The training burden on the field units can be eased by ensuring that the PCU and the HTU are used in garrison for routine administration, logistics, operations, and training so that the level of computer competency is sustained/improved — reducing the trauma (individually, collectively, and operationally) of soldiers (and their commanders) suddenly having to remember how to use the computer in the field.

- 3. Maintenance. Chemical battalions, companies, and platoons do not have any computer equipment repairmen in their TOEs. Either such skills will have to be added to the TOE of the Chemical units -- because of the increased density of devices in the unit -- OR the maintenance units in the IDSCOMs and COSCOMs will have to be plussed up with such repairment to accommodate the enormous increase in the density of computers on the AirLand battlefield. Because these computers will be used for CRITICAL command and control and logistics tasks there MUST be sufficient repairment in the force structure to keep them operational. A Chemical company may continue to be operationally viable despite the loss of many of its ERC(A) and ERC(P) items -- but the loss of its ONE PCU(V1) could seriously impact its operational readiness.
- 4. Power Generation. Adequate generators will have to be added to the TOE of Chemical companies to support the power requirements of the PCU(VI). That power generation equipment must be much more reliable (consistent, filtered, and conditioned power) than that which is generally allocated to the company level. Either that or the PCU(VI) must include a power conditioner and an uninterruptible power source (UPS) as part of its standard configuration. Batteries for the HTU will have to be durable, reliable, and long-lived. Where possible, these batteries should also be rechargeable to reduce the logistics burden on the force as a whole. A battery charger for these batteries must be allocated (at a minimum) down to company level.
- 5. Inappropriate Equipment for a Chemical Platoon. Chemical units have a requirement for relatively powerful computers with a graphics capability and sufficient mass storage and memory capacity to store and use complex planning and operational programs. The HTU is too LITTLE capability and the PCU(V1) is far too MUCH capability for smoke and decontamination platoons; however, the PCU(V2) is just about what is required for NBC reconnaissance vehicles. Some computer system

intermediate in capability between the PCU and the HTU must be developed for those units with similar requirements for connection to NBC, meteorological, and position/location sensors and a communications device as well as the aforementioned graphics, memory, and mass storage requirements. The HTU is truly appropriate only for the Chemical Team LA which provides NBC Chemical units (except the vast majority of NBC reconnaissance teams) need something MORE than a HTU and LESS than a PCU(V2); i.e., the HTU is better than nothing but it is less than what is required.

SECTION V. MFA MAA CORRECTIVE ACTION SUMMARY

MFA MAA CORRECTIVE ACTION SUMMARY

BDP DEF (1986)

SECTION VI. USER INTERFACE REQUIREMENTS

NO REQUIREMENT IDENTIFIED

SECTION VII. QUANTITY/DISTRIBUTION OF DEVICES

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APPENDIX K

MILITARY POLICE SCHOOL STUDY DELIVERABLES

SECTION I. TASK/FUNCTIONS TO BE AUTOMATED

 C_{ℓ}

TYPE UNIT: MILITARY POLICE ECHELON: BN S3

PRIORITY	TASK/FUNCTION	FORCE	LEVEL	MFA	UNIQUE
_					
Ì.	BATTLEFIELD CIRCULATION CONTROL		Х		
1	PREPARE EST., PLANS, & MOVEMENT ORD		Х		
1	MSR REGULATION ENFORCEMENT -				X
1	CONDUCT CIRCULATION & MOVEMENT OPNS				Х
1	PREPARE ROUTE RECONNAISSANCE REPORT		X		
1	DISSEMINATE INFORMATION				X
1	CONTROL REFUGEES AND STRAGGLERS				X
2	PLAN & COORD REAR OPERATIONS		Х		
3	EPW OPERATIONS.		X		X
3	PLAN CIVILIAN & EPW INTERNEE OPNS		X		X
3	ESTABLISHMENT OF EPW HOLDING AREA		X		Х
3	COORDINATE EVACUATION		X		
4	SUPER. LOWER UNIT ENFORCEMENT OPNS		X		
4	ADVISE HIGHER HQ ON LEGAL MATTERS.		X		
4	LOW INTENSITY CONFLICT PEACE OPNS		Х	•	

TYPE UNIT	: MILITARY POLICE	ECHELON: BN S2
PRIORITY	TASK/FUNCTION	FORCE LEVEL MFA UNIQUE
1	PROCESS AND ANALYZE INFORMATION	Х
1	RECEIVE INTELLIGENCE	X
2	COORD WEATHER & TERRAIN DATA	X
2	CONDUCT VULNERABILITY ASSESSMENT	X
3	DISSEMINATE INTELLIGENCE ESTIMATES	X
4	EPW OPERATIONS	Х
4	PROCESS INITIAL DATA	X
4	ADMINISTRATIVE DATA BASE	X

TYPE UNIT: MILITARY POLICE ECHELON: CO

PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
1	BATTLEFIELD CIRCULATION CONTROL		Х
1	MSR REGULATION ENFORCEMENT		X
1	CONDUCT CIRCULATION & MOVEMENT OPNS		X
1	PREPARE ROUTE RECONNAISSANCE REPORT	х .	
1	DISSEMINATE INFORMATION		Х
2	AREA SECURITY OPERATIONS		Х
2	CONDUCT AREA RECONNAINSSANCE		Х
2	COLLECT & REPORT INFORMATION		Х
2	AREA DAMAGE CONTROL INFO TO RACC	Х	
3 -	EPW OPERATIONS		
3	ESTABLISH EPW HOLDING AREA		X
3	DIRECT EVACUATING EPW HOLDING AREA		Х
3	LOGISTICS REQUIREMENT	Х	
4	ADMINSTRATIVE ACTIONS	Х	
4	PREPARE PERSONNEL DAILY SUMMARY	Х	
4	ASSOCIATED REPORTS	Х	
4	FIELD FEEDING	Х	
-	LOGISTICS	X	
-	COMMANDER'S ESTIMATE	X	
5	CLASS I, III, V	X	
-	READINESS REPORTS	Х	
6	LAW ENFORCEMENTS		
5	STATISTICS		X
6	INCIDENTS REPORTS		X

TYPE UNIT: MILITARY POLICE ECHELON: PLT

PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
1	EPW OPERATIONS		X
1	ESTABLISH HOLDING AREAS		X
1	EVAC OF EPWS AND TRAFFIC CONTROL		X
2	BATTLEFIELD CIRCULATION CONTROL	X	
2	MSR REGULATION/TRAFFIC CONTROL.		X
2	ROUTE RECONNAISSANCE	X	
2	CONTROL REFUGEES AND STRAGGLERS	X	
3	AREA SECURITY	X	
3	SURVEILLANCE	Х	
3	COLLECT & REPORT INTELLIGENCE	X	
3	AREA DAMAGE CONTROL		Y.
^	ADMINSTRATIVE	X	
4	PERSONNEL DAILY SUMMARY REPORTS	Х	

SECTION II. IDENTIFICATION OF HARDWARE REQUIREMENTS

CANDIDATE SOLUTIONS

TYPE UNIT: MILITARY POLICE OPERATOR: S3 ECHELON: BN HIGH PAYOFF TASKS TO BE AUTOMATED PCU (V1/V2) OR TCU (V1/V2) OPER (ACT TOPN FREE FREE AUDIO/ PRO- STORE DIGITAL POS/ AUTO BTLFLD TCH SEN PROC CON IDIS- GRAP STEXT STEXT SVISUAL SCESS DATA SMAP SEASON STEED DWG DATA: : MOVE (PLAY :HICS :MSG :MSG :ALERT |DATA : : BACKGRD :DATA :ACQ :INFUT :GRAFHICS :BUS : 1 1 3 3 3 3 BATTLEFIELD CIRCULATION CONTROL : 3 : 3 : 3 : 3 : 3 : 3 PREPARE EST., PLANS, & MOVEMENT ORD : 3 3 3 3 3 3 3 . 3 ; 3 : 3 3 . 3 : 2 ; 3 MSR REGULATION ENFORCEMENT : 3 CONDUCT CIRCULATION & MOVEMENT OPNS : 3 PREPARE ROUTE RECONNAISSANCE REPORT : 3 : 3 DISSEMINATE INFORMATION : 3 : 3 : 3 : 3 ; 3 1 3 CONTROL REFUGEES AND STRAGGLERS : 3 PLAN & COORD REAR OPERATIONS : 3 1 3 3 : 3 : 3 : 3 EPW OPERATIONS. ' 3 2 2 2 3 : 3 : 2 : 3 PLAN CIVILIAN & EPW INTERNEE OPNS : 3 . 3 ESTABLISHMENT OF EPW HOLDING AREA : 3 : 2 : 2 : 3 : 3 : 2 3 3 3 ; 2 ; 2 , 3 ; 3 ; 2 COORDINATE EVACUATION SUPER. LOWER UNIT ENFORCEMENT OPNS : 3 : 3 : 3 : 3 : 3 : 3 : 3 3 , 3 ; 3 , 3 , 3 , 3 , 2 , 2 , 2 ADVISE HIGHER HQ ON LEGAL MATTERS. 3

HARDWARE SOLUTION: PCU(VI)

LOW INTENSITY CONFLICT PEACE OPNS 13 1 3 1 3 1 3 1 3

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION

13 13 1 3 1 2 1 2

3 - ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

LENGTH CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONT

TYPE UNIT: MILITARY POLICE			Ŭ.	ECHEL	OM: B	N			OPERATO)3: :	\$2			
HIGH PAYOFF TASKS TO BE AUTOMATED			HARD	WARE O	PERATI(ONAL CAP	ABILIT	Y						
	;		DEV	ITEM										
	;		PCU	(V1/V2	OR 1	TCU (V1/	V 2)		,		;			
	;		UTH						1		1			
	OPER ON MOVE	ACT DIS-	OPN	TEXT	FREE	VISUAL		ATAC	:DIGITAL :MAP :BACKGRD		TGT	BTLFLD SENSOR	TCH SEN FREE DRW	
	;	;	:	;	;	;	;	1	:	!	;	;	;	;
BATTLEFIELD CIRCULATION CONTROL	: 3	: 3	: 3	: 3	: 3	: 3	: 3	: 3	: 3	: 3	: 3	: 2	: 2	: 2
PROCESS AND ANALYZE INFORMATION	; 3	; 3	; 3	3	; 3	; 3	; 3	: 3	; 3	: 3	: 3	: 2	; 2	2
RECEIVE INTELLIGENCE	: 3	; 3	: 3	: 3	: 3	3	: 3	: 3	: 3	3	: 3	2	; 2	: 2
AREA SECURITY	; 3	; 3	; 3	; 3	; 3	: 3	: 3	: 3	; 3	; 3	; 3	: 2	2	: 2
COORD WEATHER & TERRAIN DATA	1.1	; 3	: 3	3	; 3	: 3	: 3	; 3	; 3	3	; 3	: 2	' 2	1 2
CONDUCT VULNERABILITY ASSESSMENT	1 1	: 3	: 3	; 3	; 3	1 3	: 3	; 3	; 3	3	: 3	. 2	: 2	: 2
DISSEMINATE INTELLIGENCE ESTIMATES	11.	: 3	: 3	: 3	; 3	; 3	: 3	; 3	; 3	; 3	; 3	: 2	; 2	: 2
EPW OPERATIONS	; 3	; 2	; 2	; 3	: 3	; 2	; 3	; 3	1 1	: 3	; 3	: 2	: 2	: 2
PROCESS INITIAL DATA	: 1	; 2	2	; 3	; 3	: 2	: 3	; 2	: 2	: 3	; 3	2	: 2	: 2
ADMINISTRATIVE DATA BASE	1.1	: 2	. 2	. 3	: 3	: 2	1.3	: 2	: 2	3	: 3	: 2	: 2	: 2

HARDWARE SOLUTION: PCU(V1)

BATING SCALE:

1 - NO CONTRIBUTION

2 - MODERATE CONTRIBUTION

3 - ESSENTIAL CONTRIBUTION

CANDIDATE SOLUTIONS

TYPE UNIT: MILITARY POLICE	ECHELON: CO								OPERATO)R: (O OPE	RATIONS			
HIGH PAYOFF TASKS TO BE AUTOMATED	HARDWARE OPERATIONAL CAPABILITY														
			DEV I	TEM											
	;					CU (V1/					:				
	;	*****	HTU		• • • • • • •		1		;						
	:ON	:DIS-	GRAP	TEXT	TEXT	IVISUAL	CESS	DATA	: MAP : BACKGED	· NAV	TGT	SENSOR	TCH SEN FREE DRW GRAPHICS	DATA	
BATTLEFIELD CIRCULATION CONTROL MSR REGULATION ENFORCEMENT CONDUCT CIRCULATION & MOVEMENT OPNS PREPARE ROUTE RECONNAISSANCE REPORT DISSEMINATE INFORMATION AREA SECURITY OPERATIONS CONDUCT AREA RECONNAINSSANCE COLLECT & REPORT INFORMATION AREA DAMAGE CONTROL INFO TO RAOC EPW OPERATIONS ESTABLISH EPW HOLDING AREA DIRECT EVACUATING EPW HOLDING AREA LOGISTICS REQUIREMENT ADMINSTRATIVE ACTIONS PREPARE PERSONNEL DAILY SUMMARY ASSOCIATED REPORTS FIELD FEEDING LOGISTICS COMMANDER'S ESTIMATE CLASS I. III. V	; 3	;	;	;	; ; 3	1 2	: : 3	: : 3	: 3	3	;	2	. 2	: ; 2	
MSR REGULATION ENFORCEMENT	; 3	: 3	3	: 3	: 3	; 2	; 3	. 3	; 3	: 3	. 3	2	; 2	. 2	
CONDUCT CIRCULATION & MOVEMENT OPNS	; 3	; 3	: 3	; 3	: 3	. 3	; 3	: 3	3	. 3	; 3	2	2	: 2	
PREPARE ROUTE RECONNAISSANCE REPORT	: 3	; 3	: 3	; 3	: 3	2	; 3	; 3	: 3	3	: 3	: 2	; 2	2	
DISSEMINATE INFORMATION	; 3	: 3	: 3	; 3	1 3	: 3	: 3	: 3	3	3	: 3	; 2	; 2	; 2	
AREA SECURITY OPERATIONS	: 3	; 3	: 3	: 3	; 3	: 3	: 3	: 3	; 3	: 3	: 3	: 2	1 2	: 2	
CONDUCT AREA RECONNAINSSANCE	; 3	; 3	; 3	; 3	; 3	: 3	: 3	; 3	3	: 3	: 3	: 2	. 2	: 2	
COLLECT & REPORT INFORMATION	; 3	; 3	; 3	: 3	; 3	; 3	: 3	; 3	; 3	, 3	; 3	; 2	2	; 2	
AREA DAMAGE CONTROL INFO TO RACC	: 3	; 3	: 3	3	3	; 3	: 3	3	3	3	3	. 2	: 2	2	
EPW OPERATIONS	; 3	: 3	. 3	: 3	; 3	: 2	: 3	; 3	. 3	: 3	. 3	, 2	: 2	2	
ESTABLISH EPW HOLDING AREA	: 3	; 3	. 3	: 3	; 3	2	: 3	: 3	3	: 3	3	: 2	. 2	: 2	
DIRECT EVACUATING EPW HOLDING AREA	; 3	1 3	3	: 3	3	: 2	: 3	3	7	3	. 3	2	2	. 2	
LOGISTICS REQUIREMENT	; 3	3	: 3	3	: 3	: 2	3	. 3		3	: 3	?	. 2	; 2	
ADMINSTRATIVE ACTIONS	: 3	: 3	3	1 3	; 3	. 2	: 3	3	1 2	. 3	. 3	: 2	. 2	: 2	
PREPARE PERSONNEL DAILY SUMMARY	1 3	: 3	: 3	3	; 3	: 2	: 3	: 3	2	3	1 3	. 2	. 2	. 2	
ASSOCIATED REPORTS	; 3	: 3	3	; 3	; 3	2	: 3	; 3	2	; 3	. 3	2	. 2	. 2	
FIELD FEEDING	1 3	: 3	3	3	: 3	1 2	3	: 3	. 3	3	3	2	: 2	2	
LOGISTICS	; 3	: 3	: 3	; 3	; 3	: 3	; 3	; 3	: 3	: 3	3	2	. 2	2	
COMMANDER'S ESTIMATE	; 3	; 3	: 3	; 3	: 3	: 3	: 3	; 3	, 3	; 3	. 3	2	. 1	; 2	
ASSOCIATED REPORTS FIELD FEEDING LOGISTICS COMMANDER'S ESTIMATE CLASS I. III. V	; 3	; 3	; 3	; 3	: 3	: 3	: 3	; 3	3 2	3	. 3	. 2	2	. 2	
READINESS REFORTS	: 3	: 3	: 3	: 3	: 3	; 3	. 3	. 3	; 3	. 3	3	. 2	2	2	
LAW ENFORCEMENTS	; 3	; 3	3	; 3	: 3	1 1	, 3	; 3	2	3	. 3	: 2	-	2	
STATISTICS	; 2	; 3	: 3	3	: 3	1 1	: 3	3	, 1	: 3	: 3	. 2	. 2	. 2	
INCIDENTS REPORTS	: 2	. 3	3	; 3	: 3	: 1	. 3	. 3	1	3	. 3	,	. 2		

HARDWARE SOLUTION: PCU(VI)

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

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CANDIDATE SOLUTIONS

TYPE UNIT: MILITARY POLICE ECHELON: PLT OPERATOR: PLT LEADER PCU (V1/V2) OR TCU (V1/V2) OPER LACT TOPN OFMY FREE LAUDIO/ 1980- ISTORE COLGUTAL FOS/ LAUTO ETLELD TOE SENT PROCE TON DISTURBLE TEXT (TEXT (VISUAL CESS DATA MAP NAV DET SENSOR FREE DRW DATA) IMOVE IPLAY THICS IMSG IMSG TALERT TOATA BACKGRD DATA ACQ INPUT GRAPHICS BUS : . 3 EPW OPERATIONS · 3 ESTABLISH HOLDING AREAS ; 3 3 1 3 1 3 1 3 2 . 3 : 3 EVAC OF EPWS AND TRAFFIC CONTROL BATTLEFIELD CIRCULATION CONTROL MSR REGULATION/TRAFFIC CONTROL. : 3 ROUTE RECONNAISSANCE 3 CONTROL REFUGEES AND STRAGGLERS 3 : 3 : ; 3 ; 3 3 (AREA SECURITY : 3 3 3 3 3 2 , 3 SURVEILLANCE : 3 ; 3 COLLECT & REPORT INTELLIGENCE ; 3 : 3 : 3 : 3 : 3 : 2 , 3 AREA DAMAGE CONTROL ; 3

HARDWARE SOLUTION: HTU

PERSONNEL DAILY SUMMARY REPORTS

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

SECTION III. OPERATIONAL BENEFITS

OPERATIONAL BENEFITS MP BATTALION LEVEL

- 1. Automation at the Military Police Battalion level will significantly enhance its capability to process and disseminate critical battlefield information in terms of real time increments.
- 2. The battalion, which is the operational linchpin for the Military Police command and control structure in both Corps and TAACOM, is currently relegated to a manual system for processing voluminous amounts of data from subordinate and higher elements.
- 3. The Military Police, by virtue of its scheme of deployment and mission, serve as the eyes and ears of the maneuver commander and as such, the enhanced capability of the battalion to process and disseminate information through the use of computer-driven map graphics, displays, and storage of both long and short term data will facilitate its assimilation and correlation.
- 4. The availability of automation to the battalion will afford the primary staff elements the opportunity to maintain a direct data link to its subordinate units, which under current doctrine, are dispersed throughout the theater. The nominal Military Police Combat Support company, for example, operates in an area that encompasses 360 square kilometers and as such, the ability of the Battalion Commander has real time access to his company commanders which will significantly improve the decision-making process.
- 5. The high payoff tasks that will be directly affected by automation are found at each of the staff levels. The Portable Computer Unit and its graphic map capabilities, as an example, will radically reduce the manual tasks associated with the planning and execution of the Military Police area security mission, base and base cluster defense, and other rear area operation missions.
- 6. Automation will increase the overall effectiveness of the Military Police command and staff elements by providing them at the battalion level with the capability to rapidly access or input critical combat information to its subordinate units and the Rear Area Operation Center, conversely, that real time link with the Military Police Brigade provides it with a continuum of information that is crucial to the ability of the Military Police to conduct its missions throughout the entire theater. Those key tasks at battalion that would be included are command and control, development of MP orders/annexes, circulation control plans, planning/coordination of rear operations and the development of contingency plans.

OPERATIONAL BENEFITS MP COMPANY LEVEL

- I. Dispersion is the key element in the deployment of the Military Police Company at each echelon and as such, the capability to maintain real time and a data link to its higher headquarters is vital to the company commander as he attempts to analyze battlefield information during the decision-making process and communicate it to subordinate units.
- 2. The Portable Computer Unit at the company level will provide the commander the capability to collect, store, and analyze tactical information in real time terms; a function that is now primarily conducted through a series of manual tasks and functions.
- 3. The Military Police company commander is performing four missions simultaneously and as such, because of limited assets, the capabilities provided by automation to the commander at this echelon eliminate a recognized deficiency in the management of battlefield information.

Constitution of the control of the c

4. The Portable Computer Unit will be used at the company headquarters. Those tasks that will yield high payoff results fall into the following categories: Battlefield Circulation Control, Area Security Operations, Enemy Prisoner of War Operations, Administrative Actions, Logistics, and Law Enforcement.

OPERATIONAL BENEFITS MP PLATOON LEVEL

- 1. The Military Police platoon leader, by virtue of his operation scheme of maneuver at all echelons, requires a genuine real time capability to interface with the company headquarters.
- 2. The ability to transmit and process critical information as the platoon leader moves throughout the area of operation significantly enhances the decision-making process.
- 3. Providing the Handheld Terminal Unit will increase the platoon leader's capability to disseminate and process information which will relieve them of the identified manual tasks associated with status reports, reconnaissance, EPW operations, and associated tasks in the conduct of rear area operations.

SECTION IV. OPERATIONAL BURDENS

OPERATIONAL BURDENS MP UNITS

Identify the operational burdens associated with fulfilling the requirements, all or in part.

- a. Transportability: Currently, the Portable Computer Unit (PCU) can be transported in existing Military Police vehicles. The Handheld Terminal Units (HTU) pose no transportable or operational problem.
- b. Training: All training will be conducted at a central site in each corps, division area, and at the necessary school/center training institution. NDI equipment, per MANPRINT guidance, will be furnished with embedded training.
- c. Maintenance: PMCS, a standard function, will not present the operating unit with any constraints on its maintenance capability.
- d. No new Military Occupational Specialty (MOS) or Additional Skill Identifier (ASI) will be required to operate or monitor the system.
- e. Automation, as currently configured, will be utilized by the TO&E personnel currently operating the manual command and control system. Therefore, no additional personnel will be required.

SECTION V. MFA MAA CORRECTIVE ACTION SUMMARY

MFA MAA CORRECTIVE ACTION SUMMARY

BDP DEF (1986) 224

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SECTION VI. USER INTERFACE REQUIREMENTS

NO REQUIREMENT IDENTIFIED

SECTION VII. QUANTITY/DISTRIBUTION OF DEVICES

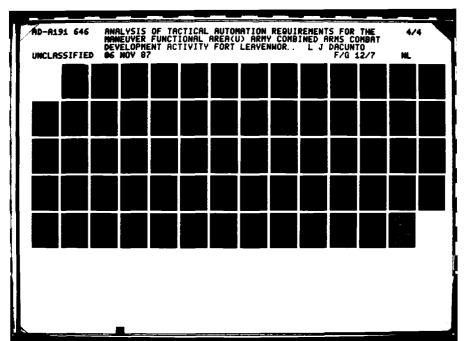
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	; ;	· } 	; 3-AR ;		(V1) :	(V2)	(V1) ((V2) ,		USER
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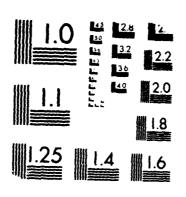
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			3			58		10		0		0		0		0		
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	LEVEL	TYPE OF UNIT	: TAA 92: : COMPO :	HHT			 00			DESIGNATED
	; ; 		2-NG : 3-AR		(V1)	•	(V1)	.V2:		
19176L : 19176L : 19176L :		: MB 371	: 12 : 9 : 7 :	0(0)	2; 24); 2; 18); 2; 14);	0: 01.	ÿ(3°	0 3 3 3 31 3	3 J 3 3, 3, 3,	ETT - 82 - 81
9177L 9177L		MP CO, CS	: 51 : : 60 :	0(0; 0(0)	1: 51, 5 1: 50; 1: 31;	0 01	3 3		\$	BOT - 00 HQ18
91771 91771 91771		MP PLT, MP CO.3S	204 240 124	1(240)	0: 0: 0: 0: 0: 0:	0 I	1 3 .		:	#TT - 8LT LIB
		SUBTOTALS:	2	204 240 124	75 78 45	0 0 0	0	; ; ;	· · · ·	
		GRAND TOTALS:		568	198	ň	5			

APPENDIX L

AVIATION SCHOOL STUDY DELIVERABLES





MICROCOPY RESOLUTION TEST CHART

C

SECTION I. TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: AVN UTILITY/CARGO ECHELON: BN

PRIORITY	TASK/FUNCTION	FORCE	LEVEL	MF A	UNIQUE
1	ORDER MESSAGE (OPORD, WARNING, FRAGO)		Х		
2	WEATHER FORECAST/WARNING		Х		
3	ENEMY CONTACT (SPOT) REPORT		X		
4	INTELLIGENCE SUMMARY (ENEMY SIT)		Х		
5	STRIKE WARNING		X		
6	FRIENDLY LOCATIONS		X		
7	CRITICAL SITUATION REPORT		X		
8	AIR ROUTES/CORRIDOR		X		X
9	AIRSPACE RESTRICTIONS		Х		Χ
10	SAM STATUS REPORT		X		
11	FREQUENCY CHANGE		X		
12	ADA STATUS (ENGAGEMENT CRITERIA)		X		
13	NBC REPORTS		X		
14	BATTLE LOSSES EQUIPMENT (FRIENDLY)		X		
15	COMMANDERS SITUATION REPORT		Х		
16	AIR MISSION REQUEST ARMY AVN/TACAIR		X		
17	MIJI REPORT		X		
18	LOGISTICS STATUS/REQUEST		X		
19	PERSONNEL REPORT		Х		
20	UNIT READINESS REPORT		X		
21	AIRCRAFT PERFORMANCE PLANNING				X
22	FLIGHT MISSION PLANNING				X

TYFE UNIT: AVN UTILITY/CARGO ECHELON: CO

PRIORITY	TASK/FUNCTION	FORCE	LEVEL	MF A	UNIQUE
1	ORDER MESSAGE (OPORD, WARNING, FRAGO)		Х		
2	WEATHER FORECAST/WARNING		X		
3	ENEMY CONTACT (SPOT) REPORT		X		
4	INTELLIGENCE SUMMARY (ENEMY SIT)		X		
5	STRIKE WARNING		X		
6	FIRE MISSION (CALL FOR FIRE)		Х		
7	FRIENDLY LOCATIONS		X		
8	CRITICAL SITUATION REPORT		X		
9	AIR ROUTES/CORRIDOR		X		X
10	AIRSPACE RESTRICTIONS		X		Х
11	SAM STATUS REPORT		X		
12	FREQUENCY CHANGE		X		
13	ADA STATUS (ENGAGEMENT CRITERIA)		X		
14	NBC REPORTS		X		
15	BATTLE LOSSES EQUIPMENT		X		
15	COMMANDERS SITUATION REPORT		Х		
17	AIR MISSION REQUEST ARMY AVN/TACAIR		X		
18	MIJI REPORT		X		
19	LOGISTICS STATUS/REQUEST		X		
20	PERSONNEL REPORT		Х		
21	UNIT READINESS REPORT		X		
22	AIRCRAFT PERFORMANCE PLANNING				X
23	FLIGHT MISSION PLANNING				X

TYPE UNIT: AVN ASSAULT ECHELON: BN

PRIORITY	TASK/FUNCTION	FORCE	LEVEL	MFA	UNIQUE
1	ORDER MESSAGE (OPORD, WARNING, FRAGO)		Х		
2	WEATHER FORECAST/WARNING		Х		
3	ENEMY CONTACT (SPOT) REPORT		Х		
4	SAM STATUS REPORT		X		
5	STRIKE WARNING		Х		
6	FRIENDLY LOCATIONS		Х		
7	CRITICAL SITUATION REPORT		X		
8	AIR ROUTES/CORRIDOR		X		X
9	AIRSPACE RESTRICTIONS		X		X
10	INTELLIGENCE SUMMARY (ENEMY SIT)		X		
11	FREQUENCY CHANGE		X		
12	ADA STATUS (ENGAGEMENT CRITERIA)		X		
13	NBC REPORTS		Х		
14	BATTLE LOSSES EQUIPMENT (FRIENDLY)	•	X		
15	COMMANDERS SITUATION REPORT		X		
16	AIR MISSION REQUEST ARMY AVN/TACAIR	•	X		
17	MIJI REPORT		X		
18	LOGISTICS STATUS/REQUEST		X		
19	PERSONNEL REPORT		Х		
20	FIRE SUFPORT REQUEST (ADD ASSETS)		Х		
21	UNIT READINESS REPORT		X		
33	AIRCRAFT PERFORMANCE PLANNING				X
23	FLIGHT MISSION PLANNING				X

ESSNOON TAXABLES OF EVENING

PROSECULA ROCCIONAL PROSECCIO DE LOCUCIONAL RECERCOSA

TYPE UNIT: AVN ASSAULT ECHELON: CO PRIORITY TASK/FUNCTION FORCE LEVEL MFA UNIQUE ORDER MESSAGE (OPORD, WARNING, FRAGO) Х WEATHER FORECAST/WARNING X ENEMY CONTACT (SPOT) REPORT Х SAM STATUS REPORT STRIKE WARNING FIRE MISSION (CALL FOR FIRE) FRIENDLY LOCATIONS CRITICAL SITUATION REPORT X 9 AIR ROUTES/CORRIDOR X 10 AIRSPACE RESTRICTIONS X INTELLIGENCE SUMMARY 11 FIRE SUPPORT REQUEST 12 FREQUENCY CHANGE Х 13 ADA STATUS (ENGAGEMENT CRITERIA) 14 Х 15 NBC REPORTS 16 BATTLE LOSSED EQUIPMENT (FRIENDLY) Х 17 COMMANDERS SITUATION REPORT 18 AIR MISSION REQUEST ARMY AVN/TACAIR MIJI REPORT Х 19 20 LOGISTICS STATUS/REQUEST 21 PERSONNEL REPORT Х 22 UNIT READINESS REPORT AIRCRAFT PERFORMANCE PLANNING 23 Х FLIGHT MISSION PLANNING

TYPE UNIT: AVN ATK ECHELON: BN

PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
1	ORDER MESSAGE (OPORD, WARNING, FRAGO)	X	
2	WEATHER FORECAST/WARNING	X	
3	ENEMY CONTACT (SPOT) REPORT	X	
	INTELLIGENCE SUMMARY	X	
4 5		X X	
	STRIKE WARNING		
6	FRIENDLY LOCATIONS	X	
7	CRITICAL SITUATION REPORT	X	**
8	AIR ROUTES/CORRIDOR	X	X
9	AIRSPACE RESTRICTIONS	X	Х
	ADA STATUS (ENGAGEMENT CRITERIA)	Х	
	FREQUENCY CHANGE	Х	
12		Х	
13	NBC REPORTS	Х	
14	TARGET HAND OVER		Х .
15	BATTLE LOSSES EQUIPMENT (FRIENDLY)	Х	
16	COMMANDERS SITUATION REPORT	X	•
17	AIR MISSION REQUEST ARMY AVN/TACAIR	X	
18	MIJI REPORT	Х	
19	LOGISTICS STATUS/REQUESTS	Х	
20	PERSONNEL REPORT	X	
21	FIRE SUPPORT REQUEST	X	
22	UNIT READINESS REPORT	X	
23	AIRCRAFT PERFORMANCE PLANNING		X
24	FLIGHT MISSION PLANNING		Х

WEST TOO BELLEVILLE TO SEE THE TOTAL SECTION OF THE

TYPE UNIT	: AVN ATK	ECHELON: CO	
PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
1	ORDER MESSAGE (OPORD, WARNING, FRAGO)	X	
2	WEATHER FORECAST/WARNING	X	
3	ENEMY CONTACT (SPOT) REPORT	. X	
4	TARGET HAND OVER		X
5	FIRE MISSION (CALL FOR FIRE)	X	
6	INTELLIGENCE SUMMARY	Х	
7	FRIENDLY LOCATIONS	Х	
8	STRIKE WARNING	x	
9	CRITICAL SITUATION REPORT	X	
10	AIR ROUTES/CORRIDOR	X	X
11	AIRSPACE RESTRICTIONS	X	Х
12	FREQUENCY CHANGE	Х	
13	FIRE SUPPORT REQUEST	X	
14	SAM STATUS REPORT	X	
15	NBC REPORTS	Х	•
16	ADA STATUS (ENGAGEMENT CRITERIA)	Х	
17		X	
18	COMMANDERS SITUATION REPORT	X	
19	AIR MISSION REQUEST ARMY AVN/TACAIR	Х	
20	MIJI REPORT	X	
21	LOGISTICS STATUS/REQUEST	X	
22	PERSONNEL REPORT	X	
23	UNIT READINESS REPORT	X	
24	AIRCRAFT PERFORMANCE PLANNING		Х
25	FLIGHT MISSION PLANNING		Х

SECTION II. IDENTIFICATION OF HARDWARE REQUIREMENTS

CANDIDATE SOLUTIONS

TYPE UNIT: AVN ATK ECHELON: BN OPERATOR: BN S3, S2

HIGH PAYOFF TASKS TO BE AUTOMATED	1			WARE OF		NAL CAP	ABILIT	Ĭ						:
	1		DEA	ITEM										· · · · · · · · · · · · · · · · · · ·
						CA (AIV.	₹2)				;			;
	 	•••••	HTU						;		!			1 1 1
	ON	:DIS-	GRAP	TEXT	: TEXT	VISUAL ALERT	CESS	:DATA	HAAP BACKGRD	NAV	TGT	SENSOR INPUT	:TCH SEN :FREE DRW :GRAPHICS	:DATA:
ORDER MESSAGE (OPORD, WARNING, FRAGO)	: 3	: 2	: 2	; ; 2		; ; 3				: 3	; ; 1		: 1	1 1
ORDER MESSAGE (OPORD, WARNING, FRAGO) WEATHER FORECAST/WARNING ENEMY CONTACT (SPOT) REPORT INTELLIGENCE SUMMARY STRIKE WARNING FRIENDLY LOCATIONS CRITICAL SITUATION REPORT AIR HOUTES/CORRIDOR AIRSPACE RESTRICTIONS TARGET HAND OVER FREQUENCY CHANGE SAM STATUS REPORT ADA STATUS (ENGAGEMENT CRITERIA) AIR MISSION REQUEST ARMY AVN/TACAIR MIJI REPORT	: 3	1	: 1	: 1	: 2	: 2	: 1	. 2	. 3	. 3	. 2		: 2	
ENEMY CONTACT (SPOT) REPORT	: 3	2	2	3	: 2	2		: 3	: 3	: 3	: 2	2	; 2 ; ; ; ; ; ; ; ;	11:
INTELLIGENCE SUMMARY	: 3		; 2	; 1	. 1	1 1	1	. 3	; 3	: 3			1 1	i i- i
STRIKE WARNING	: 3		1	: 2	1.1	: 3	; 1	: 3	3	3	• 1	2	1	2
FRIENDLY LOCATIONS	3	2	: 2	1 2				; 3	: 3	, 3	: 2	: 2	; 1	2
CRITICAL SITUATION REPORT	: 3	; 2	2	; 3	; 2	; 3	1 1	: 2	3	: 3	. 2	1 1	: 1	(1)
ALE HOUTES/CORRIDOR	: 3	; 1	. 2	; 2	2	; i	: 1	; 3	3	. 3	: 1	; 2	: 1	: 2
AIRSPACE RESTRICTIONS	13 -	; 2	2	; 2	: 2	3	: 2	3	; 3	; 3	: 1	; 2	: 1	: 2 :
TARGET HAND OVER	; 3	: 2	2	3	2	; 2	: 3	! 3	3	; 3	2	; 2	:	; 2 ;
FREQUENCY CHANGE	; 3	2	1 1	; 2	; 1	: 1	: 2	. 3	:	. 2	; ;	: 2		1.1 :
SAM STATUS REPORT	: 3	: 2	; 2	2	; 2	; 3	, ;	: 3	: 3	. 3	: 3	: 2	: 1	: 1 :
ADA STATUS (ENGAGEMENT CRITERIA)	: 3	: 2	: 2	; 2	: 2	: 2	; 1	: 3	, 3	: 3	: 1	: 2	: 1	1.1
AIR MISSION REQUEST ARMY AVN/TACAIR	: 3	: 2	; 2	; 3	: 2	: 1	1.1	: 2	. 3	: 3	. 1	: 2	: :	: : :
MIJI REPORT	; 3	: 2	2	: 3	: 1	: 3	: 3	: 2	: 2	3	: 1	: 2		1 1 1
BATTLE LOSSES EQUIPMENT (FRIENDLY)	; 3	1	: 1		•			,	^		: :		. :	: 1
COMMANDERS SITUATION REPORT	: 3	1 1	; }	3	: 2	: 1	: 2	: 2	2	; 3	. 2	1 2		. 1 :
LOGISTICS STATUS/REQUESTS PERSONNEL REPORT	: 3	1 1	: 1	; 3	: 2	1 1	. 1	. 3	2	: 3		: 1	:	1 1
PERSONNEL REPORT	; 3	:	; 1	: 2	: 1		: 1	: 2	2	. 3	1 1	: 1	1	. : :
THE TRADINESS REPORT	: 3	: 1	1 1	: 2	1:	: :	. 1	: 2	; 2	; 3	: 1	1 1	: 1	:::::::::::::::::::::::::::::::::::::::
FIRE SUPPORT REQUEST NBC REPORTS	; 3	; 2	; 2	: 2	: 2	; 1	: 2	; 2	2 2 2 2 2 2 3	; 3	; 3	. 2	1 1	. 2
NBC REPORTS	; 3	: 2		: 3	1 1	1	; ì	; 2	. 2	. 3		: 1		1 4
AIRCRAFT PERFORMANCE PLANNING	; 3	: :	. :	; 2	: :	: 1				2	1			. 2
FLIGHT MISSION PLANNING			: 1	; 2		: 1	; 2	2	•		ì			2

HARDWARE SOLUTION: PCU(V2)

BATING STALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

I-II-2

CANDIDATE SOLUTIONS

TYPE UNIT: AVM ATK ECHELON: CO OPERATOR: CO COMMANDER

HIGH PAYOFF TASKS TO BE AUTOMATED	:		HARD	WARE O	PERATI(ONAL CAP	ABILIT	Y						
	;		DEV	ITEM										
			PCU	(V1/V2) OR '	TCU (V1/	V2)		•;		1			
	!		HTU						·; ;		:			
	OPER ON MOVE	:DIS-	GRAP	TEXT	TEXT	: AUDIO/ : VISUAL : ALERT	CESS	DATA		VAV	TGT	SENSOR	TCH SEN FREE DRW GRAPHICS	DATA
ORDER MESSAGE (OPORD, WARNING, FRAGO)	1.3	. 2	: 1	: 2	: 1	: 3	2	: 2	1 1	; ; 3	: 1	1 1	;	1 1
WEATHER FORECAST/WARNING	: 3	1 1	: 1	: 2	: 2	1 1		, 2		: 3	, ,	•	2	: 1
ENEMY CONTACT (SPOT) REPORT	: 3	. 2	: 2	: 2	: 2	: 2	1 1	; 2	: 2	. 3	2	2		: :
INTELLIGENCE SUMMARY	: 3	: 2	: 2	: 2	: 1	. 2	; i	. 3	2 2	: 3	1 1	1	: 1	
STRIKE WARNING	: 3	: 3	2	: 2	: 1	: 2	1 1	3	. 2	: 3	1 1		1	: 2
FRIENDLY LOCATIONS	: 3	. 2	: 2	. 2	: 1	: 1	: 1	: 3	. 2	: 3	: 2	. 2		: 2
RITICAL SITUATION REPORT	: 3	: 2	: 2	1 2	: 2	: 2	: 1	2	2	: 3	; 2	: 1	1	: 1
IR ROUTES/CORRIDOR	3	: 2	: 2	: 2	; 2	: 1	: 1	: 2	2 2 2 2 2 2	: 3	1.1	2	1	: 2
IESPACE RESTRICTIONS	1 3	1 1	. 2	2	: 2	. 1	: 1	! 3	3	: 3	11	; 2	1	; 2
ARGET HAND OVER	: 3	: 2	: 2	; 3	; 2	; 2	; 3	: 2	: 3	: 3	; 2	: 2	1 1	. 2
SAM STATUS REPORT	: 3	: 2	2	: 3	: 2	3	1 1	: 3	; 3	: 3	: 3	: 2	1	; 1
FREQUENCY CHANGE	: 3	: 2	: 1	: 2	: 1	1 1	. 1	. 7			1 1	, 1	1 1	: 1
ADA STATUS (ENGAGEMENT CRITERIA)	: 3	2	2	; 2	2	: 2	1 1	. 3	3	: 3	1.1	. 2	: :	: 1
AIR MISSION REQUEST ARMY AVN/TACAIR	: 3	; 2	; 2	: 3	: 2	1 1	: 1	: 2	. 3	. 3	1.1	; 2	: 1	: 1
CLI REPORT	: 3	2	2	3	1 1	; 3					1	: 2	1	: 1
DATTLE LOSSES EQUIPMENT (FRIENDLY)	; 3	1 1	; 1	. 2	; 2	; 1	; 1	; 1	; 2	, 3	; ;	: 1	1	1.1
OMMANDERS SITUATION REPORT	: 3	1 1	1	; 3	; 2	: 1	: 2	; 2	2	: 3	: 2	: 1		. 1
OGISTICS STATUS/REQUEST	: 3	: 1	1 1	: 3	: 2	: 1	; 1	; 2	: 2	3				
ERSONNEL REPORT	: 3	1 1	1	; 2	: 1	1 1	1	2	. 2	: 3	1 1			, 1
NIT READINESS REPORT -	: 3	; 1	: 1	; 2	: 1	: 1	; 1	: 2	; 2	; 3	1.1	1 1	1	
THE MISSION (CALL FOR FIRE)	; 3	: 2	: 2	: 2	: 2	1 1	: 2	; 2	: 3	: 3	: 3	: 2		. 2
FIRE SUPPORT REQUEST	; 3	: 2	: 2	: 2	; 2	1 1	; 2	; 2	2 2 2 2 2 2 2 2 3 3 2 2 2 2 2 2 2 2 2 2	; 3	3	: 2		- 2
מאר שבשטע שביי	, 3	: 2	: 2	: 3	• 1	1	: 1	: 2	: 2	; 3		:		
NIECRAFT PERFORMANCE PLANNING	' 3	1 1	: 1	2	r 1	. 1	: 2	: 2	1 1	. 2	. 1	. :		2
FLIGHT MISSION PLANNING	: 3	1	: 1	: 2	; 1	: 1	: 2	٠ 2		; 2	' 1	1		2

HARDWARE SOLUTION: HTU

RATING SCALE:

- . NO CONTRIBUTION 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

CPERATOR: BN S3, S2

CANDIDATE SOLUTIONS ECHELON: BN

				WRDE J.	Enni.	NAL CAPA	15							
•	:		DEV	ITEM										
	;		PCU	(V1/V2	OR ?	CU (VI/			;					
	;		HTU						:		:			
		.DIS-	GRAP	TEXT	TEXT	WISUAL ALERT	CESS	DATA:	: MAP : BACKGRD	VAV	TGT	SENSOR	FREE DEW GRAPHICS	DATA
DEDER MESSAGE (OPORD, WARNING, FRAGO)	: : 3	:	;	;	:	: 3	: : 2	; ; 2		;	, .	. ,		1
WEATHER FORECAST/WARNING	. 3	1 1	. 2	. 4		; 2		: 2				1		
ENEMY CONTACT (SPOT) REPORT	; 3	1 1		, ,		. 4	1 1	3	,)	, 3				
INTELLIGENCE SUMMARY (ENEMY SIT)	: 3			· J	. 1		• •	. 7	: 3			:	•	,
INIEDDIGENCE SUMMARI (ENEMI SII)	: 3	. 1	. 4		1 1		1 4		3	. 1		1 2	, 1	. 1
FRIENDLY LOCATIONS	; 3				1 1	. 3	, ,	, J	, 3		. 1			. 0
RITICAL SITUATION REPORT	, 3	. 4		7	: 2	1 7	1 4		3		1 4	. 4		. 1
AIR ROUTES/CORRIDOR	, J			. 1	: 2	, ,	1 1	; 3	. 2	, J		' • •n		
AIR ROUTES/COARIDOR	, 3	1 4			1 4	: 3	, 0	, J	. 3	, 1	1 1		•	1 2
RINSPACE RESIRICTIONS	1 3	. 4	1 4	. 4	. 4		2	: 3	, ,		. 1	, ž	4 1	. 4
SAM STATUS REPORT	, 3			. 4	: 2	: 7	. 4	, 3			' '		· •	. 1
	: 3	. 4	. 4	. 2	1 4				. J	: 3	J	· · ·		1
ADA STATUS (ENGAGEMENT CRITERIA)	. 3				, 4		1 1	. 0	. 7	, 3		ŕ	•	٠.
ALE MISSION REQUEST ARMY AVN/TACAIR	; 3		. 4				1 3		. ວ					•
ALUI REPORT	. 3		1 2			. 3	; 3 ; 1	, 4	. 0	. 3				, 1
BATTLE LOSSES EQUIPMENT (FRIENDLY)	. 3			, 2	. 4		: 2		. 2				•	1 1
COMMANDERS SITUATION REPORT	. 3			; ;	2		. 2	2	2	3	. 2			
LOGISTICS STATUS/REQUEST	3			3	; 2		; 1	. 2	. 2	. 3				:
PERSONNEL REPORT	. 3	. 1		2	; i			: 2 : 2	2		•		•	
INIT READINESS REPORT	; 3			2		1 1	1			3		•	•	
FIRE SUPFORT REQUEST (ADD ASSETS)	3	. 2	. 2	: 2	: 2		: 2	2	3	: 5	3	2		•
NBC REPORTS	: 3	; 2	. 2	; 3	: 1			. 2	. 3	. 3		:	•	
AIRCRAFT PERFORMANCE PLANNING FLIGHT MISSION PLANNING	: 3 : 3		1	. 2	. 1	1	: 2	. 2	•			•	•	

HARDWARE SOLUTION: POT(V2)

TYPE UNIT: AVN ASSLT

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

I-II-4

CANDIDATE SOLUTIONS

TYPE UNIT: AVM ASSUT ECHELOM: CO COMMANDER

HIGH PAYOFF TASKS TO BE AUTOMATED			HARD	WARE 01	PERATI(NAL CAP	ABILIT	ſ						
	;		DEV	ITEM										
	;		PCU	(V1/V2	OR ?	(VIV) CD	V2)				:			
	,		HTU						1		:			
		:DIS-	GRAP	TEXT	TEXT	VISUAL	CESS	DATA	DIGITAL MAP BACKGRD	NAV	TGT	SENSOR	TCH SEN FREE DRW GRAPHICS	DATA
ORDER MESSAGE (OPORD, WARNING, FRAGO)	; • 2	;	,	;	;	;	; ; 2	: : 2	i .	;	;	:	•	
WEATHER FORECAST/WARNING	. 7	1 1	1 1	. 2		, J	1 2	. 2		, ,	· •	•	•	
ENEMY CONTACT (SPOT) REPORT	1 3		1 7	, 4	. 7	2	1 1	. 4	i di	1		•		
INTELLIGENCE SUMMARY	. 3	: 0	, ,	, ,		2	1 4	1 7	2 2 2 2 2 2	3 7	1	•	•	
STRIKE WARNING	: 3			. 9		: 2		, ,	. 0	, 1	. 1	•		
FRIENDLY LOCATIONS	; 3	, ,	. 2		1 1			. 3	. 4	. 7		. 1	•	
CRITICAL SITUATION REPORT	. 3	. 2		, 4	. ,	: 2	1 1		. 1	. 3	. 0			
AIR ROUTES/CORRIDOR	: 3	. 4	, 2	, 2		, 1		. 1	2	, ,		,	•	
AIRSPACE RESTRICTIONS	1 7	, .	, 2	, ,	. 2		. 1	, 7	2 3	. 7		5		6
SAM STATUS REPORT	: 3	. ,	. 1		. 2	, ,	•			, ,	7	7	•	• •
FREQUENCY CHANGE		. 2		. 3	1	. :		. 7	. ,	. 1		2		
ADA STATUS (ENGAGEMENT CRITERIA)	: 3		. ,		. ,		. 1	, 1	3	. 1	: 4 ; t	1		•
AIR MISSION REQUEST ARMY AVN/TACAIR	-	, ,	· ~	, 7	1 1			. ,	. 3			, .	•	: '
MIJI REPORT	: 3			, 7	1	3	. 7	: 2		, ,			•	
BATTLE LOSSED EQUIFMENT (FRIENDLY)	•		1	. ,	: 2	, ,	, ,	. 1	. 4		•	,		
COMMANDERS SITUATION REPORT	: 3		. 1	. 1	. 2		. 1				· ·	•	•	:
LOGISTICS STATUS/REQUEST	: 3	1 1		. 7	. 7	1 1	. 4		. 1	. J	1	, <u>*</u>		:
	. 3		,	. 0	. 1		- 1		÷	, ,	•	•		:
PERSONNEL REPORT UNIT READINESS REPORT	. 3			. 9	•	: 1		4	1 2		•	•		:
FIRE MISSION (CALL FOR FIRE)		. 2	2	. 2		. 1	7	. 4	, ,	, ,	3	·	:	
EIRE STOOTON COMME TOWNTHAN	3	. 2	. 2	, 2	: 2	1	. 4	1 2	: 3	, 7	3	9		· •
FIRE SUPPORT REQUEST NBC REPORTS	: 3	, ,	2	: 3	: 1	1 1	1.1	· •		3		. •	•	
AIBCRAFT PERFORMANCE PLANNING			. 1	. 0	•			, n		7	•	•	•	•
FLIGHT MISSION PLANNING	3	•	•		•	•		-	•	-	•	•	•	-

HARDWARE SCUUTION: HTU

RATING STALE:

I - NO CONTRIBUTION

2 - MODERATE CONTRIBUTION

NOTTUBERRYOU LATERESSE - E

L-II-5

CANDIDATE SOLUTIONS

TYPE UNIT: AVN UTILITY/CARGO ECHELON: BN OPERATOR: BN S3, S2

HIGH PAYOFF TASKS TO BE AUTOMATED	;		HARD	WARE O	PERATI(ONAL CAP.	ABILITY	(
			DEV	ITEM					*******					
	:		PCU	(V1/V2	OR	CO (VI/	V 2)		******		:			
	;	•	etu						:		!			
		:DIS-		TEXT	TEXT		CESS	:DATA	DIGITAL MAP BACKGRD	NAV	TGT		TCH SEN FREE DAW GRAPHICS	DATA
ORDER MESSAGE (OPORD, WARNING, FRAGO)	; 3	: 2	; 2	: 2	: 1	3		: 2	: :	3	: :	: 1	: :	1
WEATHER FORECAST/WARNING	; 3	: 1	; 1	1 1	; 2	: 2	1	; 2	3	: 3	: 1	2	1 1	2
ENEMY CONTACT (SPOT) REPORT	; 3	1 2	1 2	; 3	: 2	2		; 3	; 3	. 3	2	, 2		; 1
INTELLIGENCE SUMMARY (ENEMY SIT)	; 3	; 1	; 2	; 1	: 2	1	; 1	: 3	; 3	. 3	. 2		1	- 1-
STRIKE WARNING	: 3	1 1	; 1	; 2	1 1	; 3		: 3		; 3	11	; 2	1 1	; 2
FRIENDLY LOCATIONS	: 3	2	2	: 2	1 1	1 1	; 1	. 3	; 3	; 3	; 2	; 2	1 1	. 2
CRITICAL SITUATION REPORT	: 3	2	: 2	; 3	; 1	: 3	1 1	; 2	; 3	; 3	; 2			1 1
AIR ROUTES/CORRIDOR	3	i i	2	2	2	1 1	; 1	; 3	: 3	. 3	1.1	; 2	; 1	; 2
AIRSPACE RESTRICTIONS	; 3	: 2	: 2	. 2	: 2	: 3	; 2	: 3	; 3	: 3	1.1	; 2		: 2
FREQUENCY CHANGE	1 3	: 2	: 1	. 2	: 2	1 1	; 2	: 3	1	: 2	1	; 2	; 1	1 1
SAM STATUS REPORT	: 3	2	: 2	: 2	1 1	3	1 1	3	3	3	; 3	; 2	. 1	1 1
ADA STATUS (ENGAGEMENT CRITERIA)	: 3	. 2	: 2	; 2	2	; 2	; 1	: 3	: 3	3		2		
AIR MISSION REQUEST ARMY AVN/TACAIR		; 2	: 2	; 3	1.1	1 1	1.1	: 2	: 3	3	. 2			
MIJI REPORT	; 3	2	; 2	; 3	; 1	; 3	; 3	. 2	. 2	: 3	. 1	1 2	1	1
BATTLE LOSSES EQUIPMENT (FRIENDLY)	: 3	1 1	1 1	: 2	1 2	1 1	1 1	1	: 2	3	1		:	
COMMANDERS SITUATION REPORT	: 3	: 1	1 1	; 3	: 2	: 1		2	. 2	. 3	. 2	•		
LOGISTICS STATUS/REQUEST	3	: 1	, 1	3	2	1 1	1 1	: 2	: 2	3	. ;	`		. :
PERSONNEL REPORT	: 3	: 1	1 1	; 2	: 1	: 1	: 1	; 2	2	3	: 1	:	1	. :
UNIT READINESS REPORT	: 3	: 1	: 1	: 2	: 1	1 1	1.1	: 2	; 2	. 3	: i			
NBC REPORTS	: 3	; 2	; 2	: 3	1.1	: 1	: 1	: 2	: 2	. 3		: :	1	
AIECRAFT PERFORMANCE PLANNING	: 2	; 1	1 1	: 2	: 1	: 1	: 2	; 2	. 1	. 2		1 2		2
FLIGHT MISSION PLANNING	; 2	; 1	: i	; 2	; 1	: 1	2	; 2	: 1	: 3				. 2

HARDWARE SOLUTION: PCU(V1)

CONTROL CONTROL CONTROL CONTROL

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

L-II-6

CANDIDATE SOLUTIONS

TYPE UNIT: AVM UTILITY/CARGO ECHELON: CO OPERATOR: CO COMMANDER

HIGH PAYOFF TASKS TO BE AUTOMATED			HARD	MARE O	PERATI(NAL CAP	ABILITY	i .						
	;		DEV	ITEM		• • • • • • • • • • • • • • • • • • • •								
	:		PCU	(V1/V2	OR 7	CU (VI/	7 2)	•••••			:			
	;	••	HTU					•••••	·		:			
ORDER MESSAGE (OPORD, WARNING, FRAGO) WEATHER FORECAST/WARNING ENEMY CONTACT (SPOT) REPORT INTELLIGENCE SUMMARY (ENEMY SIT) STRIKE WARNING FRIENDLY LOCATIONS CRITICAL SITUATION REPORT AIR ROUTES/CORRIDOR AIRSPACE RESTRICTIONS SAM STATUS REPORT FREQUENCY CHANGE ADA STATUS (ENGAGEMENT CRITÉRIA)	OPER	:DIS-	OPN:GRAP	TEXT	TEXT	: VISUAL	CESS	:DATA	: MAP	SAV	AUTO	BTLFLD	:TCH SEN :FREE DRW :GRAPHICS	PROC
ADDED MEGGAGE (ADADS MADVING PRACA)	;	: •	:	;	;	;	;	;		:	: ,	:	:	!
ORDER MESSAGE (OPORD, WARNING, FRAGO) WEATHER FORECAST/WARNING ENEMY CONTACT (SPOT) REPORT INTELLIGENCE SUMMARY (ENEMY SIT) STRIKE WARNING FRIENDLY LOCATIONS CRITICAL SITUATION REPORT ALB SOUTES/CORRIDOR	; 3	, 2	1 1	1 2	1 1		1 2	. 2	1	. 3	1 1		1 1	1 1
WEATHER FURECAST/WARNING	; 3	1 1	1	: 2	; 2	1	1 1	; 2	7	: 3	; 2	1 1	1 2	; ;
ENERY CUNTACT (SPUT) REPURT	: 3	2	: 2	2	; 2	; 2	i i	2	; 2	3	; 2	1 2		
INTELLIGENCE SUMMARY (EXEMY SIT)	; 3	. 2	2	2	2	2		; 3	2	3	. 2	1 1	1	
STRIKE WARNING	: 3	; 3	2	2	1.1	2	1 1	: 3	2	3		1 2		: 2
FRIENDLY LOCATIONS	; 3	: 2	: 2	. 2	: 1	: 1	: 1	: 3	: 2	: 3	: 2	; 2	:	: 2
CRITICAL SITUATION REPORT	; 3	; 2	: 2	: 2	: 1	2	' !	: 2	: 2	3	: 2	1 1	1	; :
AIR ROUTES/CORRIDOR	3	; 2	: 2	. 2	. 2	1 1	; 1	; 2	. 2	. 3	; ;	2	1 1	. 2
AIRSPACE RESTRICTIONS	: 3	1 1	2	: 2	: 2	: 1	1	: 3	. 3	3	1.1	: 2	1	: 2
SAM STATUS REPORT	: 3	: 2	. 2	: 3	· 2	; 3	: 1	3	; 3	: 3	: 3	. 2	1	. 1
FREQUENCY CHANGE	: 3	: 2	1 1	: 2	: 1	: 1	; 2	; 3	: :	: 2	: 1	. 2	1	: 1
ADA STATUS (ENGAGEMENT CRITÉRIA)	: 3	; 2	. 2	1 2	: 2	: 2	, :	; 3	. 3	3	: 1	. 2	•	
AIR MISSION REQUEST ARMY AVN/TACAIR	: 3	1 2	; 2	3	. 1	. 1	•	. 2	3	3	2	ì		
	: 3	2	: 2	: 3	: 1	. 3	; 3	2	3 3	: 3	1	; 2	. :	: :
MIUI REPORT BATTLE LOSSES EQUIPMENT	: 3			2	: 2	: 1		1	. 2	. 3	: :			
COMMANDERS SITUATION REPORT	; 3	: 1	. :	. 3	: 2	. :	2	•		. 3	2			: 1
LOGISTICS STATUS/REQUEST	: 3	: :	: 1	: 3	: 2	: 1	. 1	; 2	1 2	3	1	1		
PERSONNEL REPORT	3	: !		2	:			2	2	1	·		•	·
LOGISTICS STATUS/REQUEST PERSONNEL REPORT UNIT READINESS REPORT FIRE MISSION (CALL FOR FIRE) NBC REPORTS	: 3		•	. 2	•		•	. 2	: 2	. 3	. ;	:		•
FIRE MISSION (CALL FOR FIRE)	3		: 2	: 2)	:	2	2	. 3	. 3	. 3	2		, 2
ASC SEBOSES	3	: 2	,	1	1	. 1	•		2	3	•	: 1	•	•
NEC REPORTS AIRCRAFT PERFORMANCE PLANNING	. ,		1	2		•	9	, ,	•	:	•	•	•	•
FLIGHT MISSION PLANNING		•			•	•			•	7		•	•	

HARDWARE SOLUTION: HTU

BATING SCALE:

- 1 NO CONTRIBUTION
- C MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

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SECTION III. OPERATIONAL BENEFITS

OPERATIONAL BENEFITS AVIATION UNITS

- 1. Automation can provide real time information transfer of essential battlefield data.
- 2. Elimination of manual retransmission of information will reduce error rates.
- 3. User to user communications flow allows interaction and resulting operational synergism. This would provide a greater capacity for coordination in combined arms operations.
- 4. Automation would reduce manpower requirements to meet the requirements for message traffic handling.
- 5. Automation could reduce redundancy conflicts and ambiguity in orders.
- 6. Mission data would be immediately available at any user level by the speed of automation in message traffic and data processing.
- 7. Automation will increase response time of aviation assets by reducing mission planning tasks with a data processing capability.
- 8. The accuracy and perishability of information would be extended by the real-time flow of data.

SECTION IV. OPERATIONAL BURDENS

OPERATIONAL BURDENS AVIATION UNITS

The following is a list of Operational Burdens associated with fulfilling the requirement, all or in part:

- 1. Transportability. Required equipment for automation is bulky, heavy, and requires excess power. This increases an already over tasked transportation system. Non-Developmental Items (NDI) require special care and handling which the rear of a 5 ton truck or M577 command track may not be able to provide.
- 2. Training. The operators must be proficient and knowledgeable in tasks that draw from the "foxhole" strength of the unit. The sustainment of proficiency in automation tasks will require very specialized schooling and support for user units. This is not an "on the job" training type of qualification. To maintain proficiency with data devices requires daily use of the system and "refresher" training updates.
- 3. Maintenance. The services required will be contract because its sophistication and non-standard components within the current supply system. Contract help may not be available in mid- to high-intensity conflicts. Items cannot be fixed forward, thus a large quantity of floats will be needed. This increases the transportation requirement for logistical support and the stockage levels.
- 4. The work load for operator at battalion and lower is at the saturation point. Manpower levels will have to be increased for operation, support, and maintenance. Continuous operations (CONOPS) would cause a serious degradation in the timely/accurate input and receipt of data. This is a highly skilled trade and adverse conditions will severely impact on operator performance.
- 5. Information and data can easily be received at a rate faster than the unit can analyze and react to. The speed of automation can easily exceed the speed of the units capability to respond to orders.
- 6. Information will need to be filtered to prevent overload.

SECTION V. MFA MAA CORRECTIVE ACTION SUMMARY

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MFA BDP CORRECTIVE ACTION SUMMARY

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	02	26
	03	3 2
	03	3
	03	6
	03	9
	05	8
	06	4
	07	7 5
	08	5
	09	3
	09	-
	11	6
	13	
	20	

SECTION VI. USER INTERFACE REQUIREMENTS

NO REQUIREMENT IDENTIFIED

SECTION VII. QUANTITY/DISTRIBUTION OF DEVICES

TOE LE	. DEVEL	: 	: TAA 92 : COMPO : 1-AA : 2-NG	; HH	; ; T	PCU					TCU	ľ	1	DEV I	ITEM:	DESIGNATED	
	; ;		: 2-NG : 3-AR	; ; !	;; ; .+	(V)	; -) :	(₹2	· † · !) :	(♥)	 - } :	(V2	; :) :		; ; •	USER	
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01117L	;		; 0	; 0(0);	0 (0);	0 (0);	0 (0):	0 (0):	0 (0)		
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011771		ATK HEL CO (AH-1)	; ; 12	; , , ,	12);	۸,		Λ,	Λ	٨		Δ,	٠.	Α.	٠,		
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011771	•			: 11		-	0;:			•	0;	- 1		0 (HTU - CO CDR	
	•	'			0,1	•	0 ,,	٧,	0,.	٠,	٠,	٠,	V , ,	٥,	٠,	00 021	
		SUBTOTALS:															
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			2		0		0		0		0		0		0		
			3		9		0		4		0		0		0		
		GRAND TOTALS:			40		J		10		3		0		3		

TOE	: LEVEL	TYPE OF UNIT		COMPO : 1-AA : HHT			PC	J	:		700	ļ.	:	: DEV ITEX		DESIGNATED		
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01304L			; 4 ;	1(4) :	0 (0):	0 (0):	0 (0):	0 (0):	0 (0);			
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SPANDAL SHIVILA KAMILA SANSAN PERSONATIVAKALAH BANSANATINDANSAN TRANSAN TRANSAN TRANSAN TRASAN TRASA

TOTAL TOTAL CONTRACTOR OF TENTERS

TOE	: LEVEL	· •	TAA 90: : 00MP0 : : 1-AA	HET			P01	!			TC:	•	:	DEV ITEM		LESIGNATEL		
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		GRAND TOTALS:		40	0	3(Ó)	¢	;)	
					L-V	II - 5							

TOE : LEVEL :		TYPE OF UNIT	: TAA 92 : COMPO : 1-AA	: HH			PCU	!	;		TCU	!		DEV ITEM:	DESIGNATED		
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717035	:		:	, V(:		• (!	٠,	1	V		V t		٠,			
17071		CMD AVN CO	1	: 1(1):	0(0);	0(0);	0(0;:	0(0):	0 (01:	HTU - CO CDR	
1707L	1	1	: 0	0(0) :	0(0)	0(0):	0(01.	0 (0).	0(0);		
1707L	i 1	! !	: 0	0(0):	0(0):	0 (0);	0 (0);	0 (0):	0 (01:		
	:	1	1	;	:		1		i		!		,		;		
17091	•	ASSLT AVN CO	2	1 (2);	0 (0):	0 (0):	0(0).	9 (0);	01		HTU - CO CDR	
1708L		[]	: 0	0 (0):	0(0):	0 (0) !	0(0);	0 (0):	- ,	0):		
1708L	1		: 0	0(0);	0 (0);	0 (0):	0 (0):	0 (0):	0 (0):		
1709L		: AIR CAV TRP	. 2	: 16	21 :	0 (0);	0(0);	0 (0);	0 (0):	01	Δ1 ·	HTU - TRP CDR	
)1709L	<u>.</u>	nia Ont lai	: 0	: 0(0(0);	0 (0):	0(0);	0(0):		0):	nio - ini odn	
1709L	, !	:	: 0	. 0(0(0);	01	0):	01	0);	01	0):	0(0):		
	:		;	:	;	• (:	• •	:	• (;	• •	,	• (;		
1715L	,	: ATK HEL BN (AH-64)	1 1	: 0(0);	0 (0}	2(2);	0(0) ·	0(0):	0 (0):	PCU - S3, S2	
1715L	;	; ;	: 0	: 0(0);	0(0):	0(0);	0 (0):	01	0)	0 (0):		
1715L	,	! !	: 0	: 0(0);	0(0):	0(0);	0(0):	0 (0):	0 (0);		
	i .	; 1	;	:	- 1		;		:						;		
17171	,	: ATK HEL CO (AH-64)	: 3	1 1(0 (0):	0(0):) (9)	0 (0)		0).	HTU - CO CUR	
17171	1		: 0	0 (0 (0):	0(0;:	0;	0;.	91	6	_	01		
17171	:	•	; 0	: 0(0):	0 (0):	0 (C):	0 (0)) ()ı.	0 (9):		
		SUBTOTALS:															
			i		8		0		4		Ü		0		0		
			2		0		0		0		0		0		0		
			3		0		0		0		0		0		0		
		GRAND TOTALS:			8		J		4		Ō		ĵ)		

TOE	: LEVEL	1	: TAA 92 : COMPO : 1-AA	: : HH?	; ;		PCI	IJ	:		TCU	!	:	DEV	ITEM:	DESIGNATED
	:		: 2-NG : 3-AR		; ·	(V1) ;	(V2	2) :	(∀)	1) ;	(V 2	: :		; ;	USER
2:105						•			:	•			;		;	***
01125L 01125L	DIV 2 INF	ASSLT HEL BN (UH-60)	: 1	: 0(0);	0(0):	2 (0 (21 :	0(0) 0):	0 (0 !	0; 0;:	0 (0 t	01:	PCU - S3, S2
)1125L	- 4 - AF	1 •	: 0	: 01	-	0(0);	01	0;	01	0;.	0: 0:	01:	•	0;	
	•	• :	;	1		• (;	, 1		• (1	• .	;	• •		
11261	:	CMD AV CO	1	1 1'	1):	0 (0):	0(0):	0 (0):1	9.0	0);	0 (0):	HTU - CO CDR
11281	•	•	; 0	: 0,	0):	0(0):	01	0).	31	0):	01	Ű)		0);	
011281		•	. 0	. 0(0):	0 (0);	0 (0)	0 (C):	0 (01:	0 (6) (
1207L		: ASSLT HEL CO (UH-60)	; ; 2	; ! 1(2):	0 (0);	0 (0).	0 (: : : : :	0 (0):	0 (;	HTU - CO CDR
12071	:	:	. 0	: 01	01:	01	0);	0(0);	01	0);	21	01:		0)	710 00 077
12071	•		0	0 (0):	0(0):	0(0):	0(0):	0 (0);	- '	0):	
	:		•	;	į		;		;		;		;			
012571	:	: AIR CAV TRP	: 3	1 1(0 (01:	0 (0):	0(0),	0(0,:			HTU - CO CDR
01267L 01257L		1	: 0	: 01	0):	0(0):		0):	0(0):	9(01:			
1.5012	:	•	. 0	: 0(0):	0 (0);-	. 0(0);	0(0;;	0(0):) (0);	
13851		ATK HEL BN (AH-1)	1	: 0(ù) :	0!	0)	2(2)	01	J) .)(- jj :	0())1 ·	PCU - 83, 80
013851	;	,	: 0	; 0(0):	0 (0):	0 (0):	0:	0);	0 (0);	9 (Ũ,	
1170FL			: 0	: 0(0):) (0).)(0);	0(0)	31	3).	94	٥١.	
		· AMU TOT MA (AUT.)	;	:	7) .	Δ.	<u>ن</u>	Δ,	١	۸.		Δ.	Α.	1.	٠. ٨٠ ١	""" 12 4TT
01387L 01387L	1	ATK HEL CO (AH-1)	; 3	: 0(3): 0):	0 (0 (0): 0):	0(0):	;0)0	0); 0);) () (0). 0):	- •		HTU - CO CLR
013871		•	. o	. 0(0):	0(2).		0)	01		0 (0));;	
		SUBTOTALS:			•		^		,		4		Δ.		.a	
			,		9		0		4 C		0		0		0 Q	
			3		0		3		0		Ĵ		0		3	
		GRAND TOTALS:			9		3		4		0		i,		2	

TOE	: LEVEL :	TYPE OF UNIT	: C	AA 9: OMPO -AA -NG		HET	:		PCU	J	:		TCU	·	: :	DEV	ITEM	DESIGNATED	:
	;			-AR	;		1	(V)	1)	(V2	9 :	(V)) ;	(72	1)		,	USER	:
	:				- †- ¦		;			• • • • •	,	•	· ; -				:		;
01303L	207	ASSLT AVN CO (UH-1)	1	0	;	0 (0):	0 (0):	0 (0);	0 (0):	0 (0):	0 (0)		:
	: AV BN) •	:	1	ļ	11	1):	0 (0):	0 (0:	0 (0)	0 !	3):	0 (0):	HTU - CO COR	i
013031			1	0	;	0 (0):	0 (0);	0 (0);	0 (0);	0 (0);	0 (0);		1
	;		;		i		;		ť		;		:		i		ŧ		1
01615L	!	CMD AVN BN	;	0	;	0 (0):	0 (0):	0 (0);	0 (01:	0 (0):	0 (0):		i
016151	:		;	1	,	0 (0):	0 (0):	2 (2);	0 (0).	0 (0 (0):	PCU - S3, S2	1
016151	:	·	í	0	;	0 (0);	0 (0):	0 (01:	0 (0);	0 (0):	0 (0);		i
	:		;		1		;		;		•		;		;		i		:
01617L	1	CMD AVN CO	;	0	1	0 (0);	0 (0);	0 (0):	0 (0):	0 (0):	9 (0);		;
01617L	:		;	1	;	: (1):	0 (0):	0 (0);	0 (0);	0 (0 (HTU - CO CDR	÷
016171	:		;	0	;	0 (0):	0 {	0):	0 (0):	0 (0):	0 (0):	0 (C);		; -
		SUBTOTALS:																	
				1			0		0		0		0		0		0		
				2			2		0		2		0		0		0		
				3			0		0		0		C		Ç		0		
		GRAND TOTALS:		,			2		0		2		0		0		0		

TOE	LEVEL	TYPE OF UNIT	TAA COMP	0 ; ;	EH"	:		PC	J	;		TCI	ı		DEV	ITEN:	DESIGNATED	
	;	•	: 2-NG : 3-AR			;•	(₹)	.) ;	(V2	;	(Y)	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	(V2)		;	USER	;
		! :	: 	+		· † -				· ; ·		·+- !				•• ;		;
01303L	210	: ASSLT AVN CO (UH-60)	1 1		11	1):	0(0:	0{	3):	01	0):	01	0):	9 ();	HTU - 00 CDR	:
013031	: AV BN		: 0	;	0(0):	0(0):	0(0):	0(0):	0 (0) -		;
01303L	;	• •	: 0	;	0 (0):	0(0):	0(0);	0 (0);	0 (0);	0 (0)		;
	t t		;	:		i		;		;				ï		;		;
01625L	;	: CMD AVN BN	1	;	01	0):	0(0);	2(2) (0(0).	0(01:	0(0) '	PCU - \$3, \$2	
01625L	1	1	: 0	:	0 (0):	0(0):	0 (0);	0 (0);	0 (0::	0 (0;:		1
016251	i i	1	; 0	:	9 (0):	0 {	0):	0 (0):	0 (0):	0 (0):	0 (0;		
	1	! •	;	1		;		1		:		;		:		,		;
016271	ì	CMD AVN CO	: 1	;	1 (1);	0 (0);	0 (0);	0 (0):	0 (0);	0 (0):	HTU - CO CDR	•
01627L	•	<u> </u>	; 0	;	0 (0):	0(0):	0 (0 (0);	0 (0):		01.1		;
015271	1	1	: 0	;	0(0);	0 (0):	0 (0):	0 (0).	0 {	0);	0 (0);		; -
		SUBTOTALS:																
		0001011200	1			2		0		2		0		0		0		
			2			0		Ō		0		0		0	_	0		
			3			0		0		0		0		٥	-	0		
		GRAND TOTALS				າ		n		2		0		٨		۸		

SECTABLE SOURCES SECTION OF DEVICES

TOE	: LEVEL		: TAA 92: : COMPO : : 1-AA : : 2-NG		:		PCI	ľ	:		TCT		;	DEV	ITEM:	DESIGNATED
	; ; ;		3-AR		'	(V)	.) :	(V 2	!) ;	(V)	()	(V2	; ;	••••	:	USER
010451	: : DIV	: ASSLT HEL BN (UH-60)	: :	0(; (0)	0 (0):	2 (2)	0 (0).	ð(0):	0 (0):	PCU - S3, S2
01045L	ABN	,	: 0 :	0(0);	0 (0);	0(0);	0(0);	0 (0):		0):	•
010452	;	· : •	: 0		0):	0(0);	0 (0):	0(0);	0(0);	
010471	•	ASSLT AVN CO	2	1(2):	0(0):	0 (0):	0(); 0);	0 (0);	- •	0):	HTU - CO COR
01047L		, 1	: 0 :	01	0):	0 {	0);	0 (0):	0 (0):	0;	3):	0;	0)	
010471	:	1 - 1	: 0 :	0(0);	0 (0):	0 (110	0 (01. :) (3).	0(31	
01048L	•	: CMD AVX CO	1	. 16	11:	0 (0;:	0 (0):	9;	0)	0 (01 :	0 :	0. :	HTU - CO COR
010481			: 0	0 (011	0(0):	Û(0)	01	0)	Û.	0):	-	û)	
010481	:	: 1	0	0(0);	0 (0);	0 (0):	0 (0)	0;	3)	0 (0;	
01055L	1	ATK HEL BN (AH-60)	1 1	0(0);	0(0);	2(2);	0 (0):	0 (0 (•	PCU - \$3, \$2
01055L	:	1	; 0 :		0);	0(Οį,	0 (0);		01:	0(01	0 (θ ;.	
01055L	E		: 0 :	0 (0):	0;	0);	0 :	0);	9 (9)	91	€1.°	9 (Ü;	
010 57L		ATK HEL CO (AH-64)	: 3	. 1	3);	0 (0).	0 (0)	0 (Οj,	0 (01	0 !	0:	HTU - 00 00A
010571			; 0 ;	0 (0).	0(0):	٥t	9} [) (0):	0 (0;;	0 (3);	
01057L	•		; 0 ;	0(0): :	0 (0);	0(01:	0 (0;	0 (0). :	0;	0;	
01065L	:	: AIR RECON SQD		0 (0);	01	0);	2(2)	0 (0:	0 :	0)	01	0:	FCU - 83, 82
010651	;	•	. 0		0)	0 (0)	0 (0 :	01	0;	C,	3:	Ö,	2::	
010651	,	•	. 0	0(0):	0 (0)	0 !	Ú);) (ð):	0 (31.	Ĵτ	61	
010671	:	AIR CAV TRP	3	:::	31:	0 (01:	01	01	2 (01.	٥į	0: 1	0:	0 1	HTU - TRP OUR
010671	:		. 0	0(01:	0 (0);	0(01:	31	0);	Û١	0);		Ú)	
010671		ı	0		0)	0(3) (0 (0)	0 (0 (0,		3,	
		SUBTOTALS:														
			:		9		0		6		0		j)	
			2		0		0		0		0		o a		2	
			3		U		0		U		Ü		U		0	
		GRAND TOTALS:			9		C		6		0		ĝ		÷	

5514313 WEEKSTWATER WAAA 1555 JUNIOO OLAASSA WEEKSTADO WAARAA 1555 JUNIOO OLAASSA WEEKSTADO WAAAA 1555 JUNIOO OLAASSA WAAAA 1555 JUNIOO OLAASSA WAAAA 1555 JUNIOO OLAASSA WEEKSTADO WAAAA 1555 JUNIOO OLAASSA WAAAAA 1555 JUNIOO OLAASA WAAAA 1555 JUNIOO OL

	TOE	: LEVEL	: TYPE OF UNIT	. TAA 92; : COMPO :	EHT	1		PC	:	:		TC	•		CEA	: ITEX.	DESIGNATED	
12277L		: 					(V)	; ;	, V.	:) ,	(7)		. V 2	;			user Resu	
1217L 1		:	•	1		:		:		•						:		
			: CMD AVM CO															
		i I	;														HTU - 00 C	DB
1317L	12171	1	!	0 1	0 (0);	0 (0);	Ú (0;;	0;	0)	0 (01.	Û (0;		
1317L	. 3 . 71,	•	: ASSLT HEL CO (ITH-1)		0.1	01.	٥ι	01:	0.1	01.	۱٥	01:	٥,	61.	0.1	63		
1317L		:	:															2
1385L ATK HEL BN		·	' !	_														• ••
1385L		:	:			!	• •			:					•	-		
1385L		:	: ATK HEL BN															
1387L		i	I	-														32
1387L	1385L		· ·	0 :	0 (0);	0 (0)	0 (0);	0 (0),	0 '	0).	0 (01:		
1387L	13875	· :	: ATK HFL CO (AH-!)		٥٠	01.	0.1	01:	Ð.	יינ	0.	a+ ·	0:	9	01	Ω : ·		•
		:	:		•													13
1405L ASSLT HEL BN (UH-1) 0 0 (0) 0 (0		1	1															
1 1 0 0 2 2 2 0 0 0 0 0		•		1			•		•	•	,							
14051 : : : : : : : : : : : : : : : : : : :		1	: ASSLT HEL BN (UH-1)	0 :														
1415L			1	1 1 1												0):	PCU - S3, 3	SI.
1415L : : 1	14051		1	. 1 :	0 (0):	2 (3).	0 (91.	0 :	01.	S ,	01	90	0		
	14181	* :	: CMD AVV RV	. 6	0 t	01:	Λ.	01:	0.1	05.	Δ.	a	ă:	6.4	4.4	3.		
			· CAD HIN DA														פרי ביין בי	en.
1419L																	.00 00.	
1419L 1 1 1 1 0 0 0 0 0 0		:	•	;	• ,	•	• •	• .	• •	•,	•		•	·	•	•		
1425L			TGT/RECON CO				- ,				0.	€;						
1425L		•														0:	HTU - 00 00	i.
14251	14191			. 0 :	0 :	0 ;	0:	Ü١	0:	Ç.	€,	0;	÷.	Ĵ	ŷ.	ŷ٠		
14251 : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	14051		170 SV	a	54		t i	,	٠,	٥.	٠.	<i>a</i> -	ñ.,					
0 0, 0, 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				v .											•	٠,	2011 - 63	:-
1427L ATC 30				. 0									2.	3	÷		*** W	• •
1427L 2 3 3 1: 1 3 3 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					-	•												
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			ATC 30	9		0,	ů.	Ĉ.,	3		Ú)	3	÷)			
STETCTALS: C I : : : : : : : : : : : : : : : : : :				•		-				٥:	·	:		÷		•	=== :: :: ::	::
2 24 35 3 3	.4272		•	9	0	0	0	į	j	?	:	2	¢			:		
2 24 36 2 3			STETTITALS:															
2 24 35 3				•		Ç										:		
3 3 2 6 1 1 1				2				15				•						
• • • • • • • • • • • • • • • • • • • •				3		3		:						į				
GRAND TOTALS: 17 (8			10 45°5. MAME: 1			~												

TALKELLY ALLEKTICK THE CONTROL DOSSESSES TO SECOND TRANSPORTED TO SECOND SECOND

SECTIVED TO MOTTURE STREET CANDIDARY

01217L III 0 0 0 0 0 0 0 0	0; 0; 0; 0; 3; 0; 0; 0): 0; 0;	HTT - CO CDR
01217L III 0 0 0 0 0 0 0 0	31 0(0) 0) 0(0) 0) 0(0) 0) 0(0) 0) 0(0) 0) 0 00 0) 0 00 0) 0 00	HTT - CO CDR
01217L III 0 0 0 0 0 0 0 0	31 0(0) 0) 0(0) 0) 0(0) 0) 0(0) 0) 0(0) 0) 0 00 0) 0 00 0) 0 00	HTT - CO CDR
01217L :	0): 0: 0) () () () () () () () () ()	HTU - CO CDR
01317L : ASSLT HEL CO	0) 0(0) 0) 0; 0; 0) 0) 0; 0; 0) 0) 0; 0; 0; 0) 0; 0; 0;	: HTT - CO CDR PCU - S3. S0
01317L :	0) 0; 0; 0) 0; 0; 0) 0; 0; 0) 0; 0; 0;	POU - S3. S0
01337L : 6 : 1(6): 0(0): 0(0) 0; 0) 9) 0 0; 0: 0; 0;	FOU - SE. SE
01395L	9) 0 9) 0) 0: 0: 3) 0: 0: 3.	PCT - \$3, \$0
01385L : 3 : 0 (0): 2 (5): 0 (0): 0 : 0 (0) 0	0) 0; 0; 0: 0; 0;	
	0) 0; 0; 0: 0; 0;	
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0: 0, 0.	
01387L : ATK HEL CO (AH-54)		
01387L	a) 6. a)	
	G1 V1 V	HTU - 00 CDR
	0; 0: 0:	٢
0 0 0 0 0 0 0 0 0 0	0: 0. 0	
0 0 0 0 0 0 0 0 0 0	0). 0: 0:	
01405L : 2 : 0 0 0 0 2 4 4; 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
01415L		: PCU - S3. S1
01415L		
1 : 0: 0: 0: 2: 2: 0: 0: 0: 0: 0: 0: 0: 0: 0: 0: 0: 0: 0:		
TGT/RECON CO		BAR 37 31
01419L	ur 3. 3	F3T - 83. 81
0 0 0 0 0 0 0 0 0 0		
014051 ATC BN	3 3 .	
0 , 01 01 01 01 01 01 0 01 0 0 0 0 0 0 0	$1^{n} = 1 = 2$	
0 , 01 01 01 01 01 01 0 01 0 0 0 0 0 0 0	·	P2T + 23, 2.
01425L		
][4071 ATC OC		
1,4171		remove a series
0 00 00 0 00 0 00 0		**************************************
· · · · · -		
014271		
STETOTALS:		
	-	
	-	
SHAND TOTALS:	-	

L-VII-10

TOE	; LEVEL		: TAA 92; : COMPO ; : 1-AA ;		;		PC	IJ	;		TCI	J	:	DEV	ITEM:	DESIGNATED
	; ; •		: 2-NG :		; ; ;	(∀)	() ·		2) ;	(∀)	i) ;	(V 2	: † :) ;		; ; ;	USER
12051	CORPS	ASSLT HEL BN (UH-60)	: : : 0 :	0 () 0):	0 (; 0);	0 (0);	0 (0);	Cι	0):	0 {	0};	
1205L	: VAVII		1 :	0 (0):	2 (2):				0):				0):	PCU - S3, S2
1205L			1 :	0 (0):	2 (2):	0 (0):	0 (0):	0 (0).	0 (0):	
1207L	:	ASSLT HEL CO (UH-60)	: 0 :	0 (0);	0 (; 0};	0 (0);	0 (: 0}:	0 (0),	0 (: : 10	
1207L			. 6 :	1(6),	0 (0):	0 (0):	0 (0);	0 (0);	Ú (0).	HTT - CO CDR
12071	;	;	6 :	1(6):	0 (0};	0 (0):	0 (0):	0 (0).	0 (0):	
12171		CMD AVE CO	6 ;	:(6};	0 (0);	0 (: (0)	0 t	0):	0 (ن (ز	0 (: (10	HTU - CO COR
12171	:		: 0 :	0 (0);						0).			0 (0).	
1217L	ř	· ·	. 0 :	0 (0);				0):				0)	0 (0)	
13951	:	: ATK HEL BN (AH-64)	. 6 :	0 (0):	2 (12);	0 {	3):	0 (0}.	0;	((0)	3 !	0:.	PCT - S3, S2
13851			. 0 .	0 (0).	ů(0):	91	0).	ů (0).	ù:	Û.	51	0:	
13851			0:	0 (0):	0 (0);	0;	9);	0 (0):) :	0)	01	٥i.	
13871		ATK HEL CO	18	::	18;:	0 (0);	0 :	0):	0:	0;	0'	0;	0:	0;	HTT - 09 00A
.3671	•		: 0 :	0:	01.	0 (0):	0:	3).) (911	0 (9).	0 (0:	
13871			0 :	0 (0)	0 (0;	0 (0);	0 (0:.	0:	0);	31	C :	
		CAD WAN BN	2	0 i	011	2 (4):	0 (0;.	ů (ΰì.			ů:		PCU - S3, S1
14151			: 0 .		0),				0:		Û÷	ŷ,	ŷ.	Ú	3;	
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L-VII-13

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1205L			0 :	0(0):	0(0);		û):		0):	
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12051	:		3 :	10	3):	0(0):	0(0;:	0;	0).	0 (0):		0)	
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12171		CMD AVN CO	: ; : 3 ;	16	; 3):	0(; 3);	0!	01 '	0 (0).	0 (0):	0 (0):	HTU - CO COR
1217L			. 0 :	0(0):	0(0):	0(01	0):	01	0):		0).	110 00 011.
1217L			0 !	0(0);	0 (0):	0 (0);		0);	
13651	:	: : ATK HEL BN	: 3	0{	; 0);	2(6):	31); (0);	٥,) (0)	0 (011	0 (01.	PCT - S3, S2
13851			. 2 ;	01	0):	21	4).	0(0)	0(0).		Ó).	100 30, 32
13831			Ú	0(0):	0 :	0):		0):			01	0):	-	0):	
13871		: : ATK HEL CO	: ; ; 9 ;	1(: 9);	0(); (0).	0 (); 0);	0 (0);	0 (0):	J (0) -	HTT - 30 CDR
13871		1	5 ;	1(5):	0(01			ŷ).	0 (0;		Û	
1387L	:	1	0	0(0);	0 (0 (0)	0 (0):	9 (311	
1415L	·	CMD AVN BN	: 1 ;	0(01	2 (2):	0 (0):	31	0);	0 (0):	0(0:	PCU - 83, 82
14151	•	i t	: 0 :	0(01:	0ι	0)	0;	0,:	0:	0;	3;	0)	0:	ĵ٠.	
1415L			0 :	0(01:	C (01:	0 (0)	0 (91;	0(9)	01	3)	
14191		TGT/RECON CO	1	1(1):	0 (0);	0 (0);	0(0);	01	J) '	ð(6) .	HTT - 00 00a
14191		:	; 0 ;	0(0):	0 (0).		017		0)	9 (Ûj.	0	0):	
14191			: 0 :	0(0):	0 (0).	0 (0):)(0):	0 (5) ') (2;	
14251		ATC BN	. :	. 0(0;:	2 ι	2,	0 t	ð. ·	0:	0+	0(0,	9;	٨.	PCU - \$3, \$2
14251			. 0 .	0:	01:		0)::				3 ;	01	ŷ: ·	Ú	3	
14251		,	;) :	: 0(01:	0,	0;.	0 ;	3);	3 (5)	0 (٥١.	9 (91	
14271		ATC CO		1(C;								HTU - 00 003
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14271			: 0	. 0(0).	0 !	0) -	91	0)	31	2)	Ç.): '	Ū.) :	
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TOE	LEVEL	 	: TAA 92 : COMPO : 1-AA	:	ннт	;		PCU	! 	1		TCI	J	;	DEV :	ITEN:	DESI	GNATE:)	
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		:	:	•		1														
01267L	REGT	AIR CAV TRP	: 9	;	1(9);	3 (0):	Û (0):	3 (0;.	0 (0):	0 (0;:	HTU	- TRP	CDR	
01267L	1		: 0	ï	0(0);	0 (0);	0 (0);	01	0);	0 (0).	0 (0}:				
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	;	1		;		ï		;		·		:				:				
013151	1	: AVE SQDE (ACR)	3	;	0(0);	0 (0):	2 (6):	0 (0);	θŧ	0):	0(G }.	PCU	- S3.	52	
013151	*	,	: 0	:	0(0);	0 (0):	0 (0):	0 (0):	0 (0):	0 (0):				
01315L	;	; 1	, 2	ì	0(0):	0 (0);	2(4) .	0 (0);	0 (0);	0(0):				
	,	1	•	ì		i		:				1								
013171	•	: ASSLT HEL TRP (UH-1)	; 3	1	1	3);	0 (0):	0(0)	0 (0);	0.1	0;	0 (0):	HTU	- 799	CDB	
013171	1	(·	: 0	1	0(0):	0 (0):	0 (0):	0 (0):	0 (0):	û(0);				
01317L	•	1	: 2	;	1(2):	0 (0):	0 (0):	0 (0):	0 (0):	0 (0).				
	ł	1 1	1	:		;		;		;		;		;		:				
013871	1	ATK HEL TRP	: 6	ì	1(6):	0 (0):	0 (0);	0 (0}.	0 (0);	0 (0)	377	- TRP	CDB	
013871		!	: 0	1	0(0);	0 (0)	0 (0):	0 (Û),	Ūι	0;1	91	9).				
01387L	•		4	;	11	450	0 (0):	0 (0).	0 (01 (ΰţ	C!	01.	0; ;				
		SUBTOTALS:																		
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			2			0		0		0		Ō		0		Ç				
			3			:2		ŋ		4		0		Û		9				
		GRAND TOTALS:			3	90		0		0		3		a		3				

CONTROL BOSCING CONTROL CONTROL CONTROL CONTROL

TOE	LEVEL	TYPE OF UNIT	; TAA 92; ; COMPO ; ; 1-AA ;	;	; P(CU	; ;	CU	: : DEV ITEM	: DESIGNATED
	:	: :	: 2-NG : 3-AR :		(V1)	; (V2)	(VI)	; ; (V2)	1 •	; USER
01245L 01245L 01245L	EAC HEA	: : HVY HEL BN :	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0(0); 0(0); 0(0);	0(0)	: 0(0)	0 (0)	: 0(0)	: 0(0)	
01247L 01247L 01247L	:	HWY HEL CO	; 2 ; ; 0 ; ; 0 ;	1(2); 0(0); 0(0);	0(0)	; ; 0(0); ; 0(0);	(0 (0) 0 (0)	; 0(0) ; 0(0)	: : 0(0) : 0(0)	: : HTU - CO CDR
01303L 01303L 01303L	:	: ASSLT CO (UH-60) :	3 : 0 :	1(3): 0(0): 0(0):	0(0)	: 0(0)	0(0)	: 0(0)	. 0(0)	
013851 013951 013851	:	ATK HEL BN (AH-1)	2 :	0(0): 0(0):	0(0)	; 0(0):	0(0)	0(0)	(0)	PCU - 83, 82
01387L 01387L 01387L	:	, ATK AVN CO (AH-1)	3 ;	1(3) 0(0) 0(0)	0(0)	: 0(0)	0(0)		0; 0;	
01425L 01425L 01425L	;	ATC BN	1 : 0 :	0(0) 0(0) 0(0)	0(0)	0(-0;	01 0) 01 0) 01 0.			: POU - 83, 82 :
01427L 01427L 01427L		ATC CO	2	1(2) 0(0) 0(0)	0: 0)	01 01	0: 0: 0: 0: 0: 0:	0(0) 0: 0 0 0:	0(0: 0: 0: 0: 3,	ETT - DO STR
016051 016051 016051		THEATER AVX BX	. 0	0(0): 0(0): 0(0)	21 2) 0 (0) 0 (0)	31 0)	0. 0: 0(0) 0(0)	3 (): 2: 0: 0: 0:	15 9 26 65 15 28	FOT - 83, 82
016071 016071 016071	4	THEATER AVX CO	0	0(0)	0(0,	0(0) 0(0) 0(0) 01 3.	j: j:	0 0.	3 1 - 31	HTT - 22 22R
		SUBTOTALS:	: 2 3		: <u>.</u>		\$ • • •		Ĉ : :	
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L-VII-16

TOE	: LEVEL	TYPE OF UNIT	: TAA : COMF : 1-AA : 2-NG	0 :				PC	!			TCU		;	DEA	ITEX.	DESIGNATED	
		1 1	3-AF			;	(V)) ;	(V2	:) ;	(V)	1) ;	(VC	2)			USER	
	,	1	;	;		:		:		;		:		:				
16051	EAC	: THEATER AVN BN	: 0	:	0(0);	0 (0):	0 (0);	0 (0);	0 (0);	0 (0)		
1605L	SWA	f .	: 1	;	0 (0);	2(2):	0 (0);	0 (0):	0 (0):	G (01;	PCU - S3. S2	
1505L		1 #	; 0	:	01	0);	0 (0):	0 (0):	0 (0);	0 (5):	0 (0;:		
	:	1 +	1	;		1		i		;		÷						
1607L	;	THEATER AVN CO	; 0	;	0 (0):	0 (0):	0 (0):	0 (0):	0 () };	0 (01		
1607L	•	1	: 2	: ;	:(2):	0 (0);	0 (0):	0.0	0,:	0 (0):	01	9).	HTU - CO CDR	
15071		1	: 0	;	0 (0);	0 (0);	0 (9);	01	01.	01	017	01	۱ و		
	:	t t	;	;		1		;		‡		:		:		i		
1645L	:	HVY HEL BN (CH-54)	: 0	:	0 (0):	0 (0):	0 (0):	0 (0)	0 (0),	0 (0)		
16451	:	1	! 1	. :	0 (0):	2 (2):	0 (0):	0 (0):	0 (0):			PCU - S3. S2	
16451	1	· ·	: 0	;	0 (0):	0 (0):	0 (0):	0 (0):	0 (0):	0 (C)		
	i	1	1	:		- 1		:		;				i		;		
1647L	:	: HVY HEL CO	: 0		0 (0):	0 (0):	0 (0):	0 (0 (0):	0 (0):		
16471	:	5	: 3	. :	11	3):	0 (01;	0 (0):	0 (01:	0 (-	3 (HTU - CO CDR	
1547L		1	; (1	0 (0):	0 (0):	0 (91:	0 (0);	Û(01:	0 (0):		
		SUBTOTALS:																
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			2			5		4		0		ð		0		C		
			3			0		0		0		0		0		0		
		GRAND TOTALS:				5		4		0		0		1		1		

TOE	: LEVEL	TYPE OF UNIT	: TAA 92; : COMPO : : I-AA : : 2-NG :	нн	; ; ;	••••	PCU	J	:		TCU	·	:	DEV	ITEX:	DESIGNATED
	: :	, ; ;	3-AR :		; ;	(♥)) ;	(V2	!) ;	(7)	() ;	(V2) ;		; ;	USER
012 47 L	: : EAC	: : HVY HEL CO (CH-47)	; ;	ií	2) :	0.6); 01:	0.1	01:	0.6	0):	0.(ar :	0(d: !	HTU - CO CDR
	NATO	!	: 0 :	0(0(0);		0);		0):		0):		0):	
1247L	:	1	0 :	0(0);		0):		0):		01 (•	0):	
14371	;	: ATC CO	1 1 :	1(; 1):	0 (; (0)	0 (0);	0(0;;	0 (01:	0 (: : (0	HTU - CO CDR
1437L	;	:	; 0;	0 (0):	0 (0);	0 (0):	0 (0;:	0 (0;:	0 (0;	
1437L		, ,	: 0 :	0 (0):	0(0):	0 (0):		0} :		011	0 (0):	
16051))	THEATER AVN BN	1 1	0(0):	2(2);	0(0):	0(0):	0:	0),	0(0).	PCU - S3, S2
16051	1	1	: 0:	0(0);	0(0):	0(0):	0 (0;:	0 (0):	0 f	0);	
1605L		i	0 ;	0 (0):	0 (0):	0(0):	0(0); ;	01	9) (0(0;;	
1607L	* 1 5	: THEATER AVN CO	4	1(4):	0 (0):	0 (,	0(0)	01	0)	0 (0):	HTU - CO CDR
16071	1	•	: 0 .	0 (0):	0 (0):	0(0):	Ò (0);	0 (OF;	0 (0).	
)1607L	•	1	0 ;	0 (0):	0 (0).	90	0);	Ů!	9) .	01	01]	٥t	0);	
	•	CMD AV CO (DS)			1):						0);		0, 1	0 (0}	HTU - CO COR
15131	:	•	; 0;								0).			J;	G):	
16131	,	1	: 0;	0 (0):	0 (0):	0(0).	0 (0);	3(0;	Û (0}	
16451		HVY HEL BN (CH-54)								0 ;	0;	G:) ; ·	0 ;	C:	
16451			; 2 :	0 (4).				3)		0.1	0;	0;:	PCU - 33. S2
1645L			. 0 :	0 (0)	C (01:	0 (0::	0 (0);	0:	0 -	9 (٥١	
15471		HVY HEL CO (CH-54)	: 0:			0 (0);		0);		0!.		01	
16471	•	•	: 3 ;		-, .				01.					- 1		HTU - 00 0DR
15471			: 0 :	0 (0);	0 (0):	0 (0.	0.	ĝ!	9:	01	0.1	Û·.	
		SUBTOTALS:					_									
					9		2		0		0))	
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			3		0		0		0		Ç		3		į.	
		GRAND TOTALS:			::		6		0		0		1)	

TOE	LEVEL	TYPE OF UNIT	; C			ннт	:		PCU		:		TOU			DEV	: : :TEM:	DESIGNATED	
				FA-	•		:	(♥)	.) :	(V2) :	(V)	.) :	(V2	:			EEZU	
		:	;		;		;		;					•			· · · · · ·		
	EAC	: TOAB	;	3	1	0 (0):	2(6):	0 (0):	01	0):	9(0):	0 (0):	FCU - S3. S2	
		1 1	;	0	;	0 (0);	0 (0):	0 (0),		0)	0 (0)	0 (0):		
		1 :	1	- 0	i	0(0);	0 (0;:	0 (0):	0 (0):	0 (0).	0 (0);		
	:	; •	;		;		i		;		;				i				
	:	: ASSLT HEL CO	;	15	ŧ	1(15).	0(0):	0 (31.1	HTU - CO CLR	
		•		0	1	0 (0);	0 (0):	0 (0):	0;	0}.	0:	0;	Ū (ē):		
		:	i	0	;	0(0);	0 (0);	0 (0):	0 (0);	0 (3):	0 (0:		
		SUBTOTALS:																	
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				2			0		0		0		0		0		Ü		
				3			0		0		0		0		0		0		
		GRAND TOTALS:				2	.5		6		0.		0		Ú		0		

APPENDIX M

SIGNAL SCHOOL STUDY DELIVERABLES

SECTION I. TASK/FUNCTIONS TO BE AUTOMATED

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: SIGNAL UNIT ECHELON: BN

PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
1	DISPLAY RADIO RELAY & SYS DIAGRAM		Х
	MAINTAIN NEAR REAL TIME NET STATUS		X
	RECEIVE HAZCON REPORT		X
	MAINT NEAR REAL TIME PJH NET STATUS		X
	REQUEST FOR COMSEC KEY		X
2	SOI DISTRIBUTION		X
	EVALUATES STATUS REPORTS		X
	RECEIVE WEATHER FORECAST	X	
	EQUIPMENT BACKUP STATUS REPORT		X
	AIR SUPPORT REQUIREMENT	Х	
3	AIRHEAD LOCATIONS/ACTIVITY	Х	
3	DIST. AFU AMMUNITION SUPPLY RATE	Х	
3	DISTRIBUTE AIR STRIKE WARNING	X	
3	DISTRIBUTE CHEMICAL DOWNWIND REPORT	X	
. 3	DIST COMMANDER'S LOGISTIC STATUS	X	
3	DIST DAILY INTELLIGENCE SUMMARY	X	
3	DISTRIBUTE DAMAGE AVOIDANCE REPORT	X	
3	DIST ELEC WARFARE MISSION SUMMARY	X	
3	DISTRIBUTE ENEMY SITUATION REPORT	Х	
3	DIST FREQ INTERFERENCE INFORMATION	Х	
	DIST FRIENDLY NUCLEAR STRIKE WARN	X	
	DIST LAND FORCES SITUATION REPORT	X	
	DISTRIBUTE NBC 1/2/3/4/5/6 REPORTS	X	
	DISTRIBUTE SPECIAL OPERATION REPORT	X	
3	DIST SUPPORT-BATTLEFIELD GEOMETRY	44	
3	ISSUE COMMAND DIRECTIVES	Х	
3	ISSUE COOR. DIRECTIVES TO NODES	Х	
3	ISSUE COOR. DIRECTIVES TO NODES ISSUE OPERATIONS ORDER	X	
3	OPERATIONS PLAN CHANGE	X	
3	OPERATIONS PLAN CHANGE PERPARE SIG ANNEX OPERATIONS ORDER RECEIVES COMMAND STATUS REPORT BATTLEFIELD GROMETRY	X	
3	RECEIVES COMMAND STATUS	Х	
•		••	
3	REPORT C2 INFORMATION SYS STATUS REPORT COMMUNICATIONS STATUS REQUEST ADA PRIORITY	Х	
3	REPORT COMMUNICATIONS STATUS	Х	
3		Х	
3	TRANSFER OF AUTHORITY	X	
7	RECEIVE OPERATIONS ORDER	<u>y</u>	
3	REPORT CLASS VII & IX STATUS	Х	
	REP DAYS OF SUPPLY FOR CONSUMABLES	Х	
	REPORT ENEMY ACTIVITY/WEAPONS .	X.	
	REPORT ENEMY CONTACT	X	
	REPORT FRIENDLY UNIT STATUS	У	
. 3	REP SUPPLY SHORTAGE/OFN CONSTRAINTS	X X	
3	REQUEST IMMED ENGAGE. TARGET NONNUC	<i>i</i> ,	

HIGH PAYOFF TASK/FUNCTIONS TO BE AUTOMATED

TYPE UNIT: SIGNAL UNIT ECHELON: IND NODE

PRIORITY	TASK/FUNCTION	FORCE LEVEL	MFA UNIQUE
i	REPORT SITE EQUIPMENT STATUS		Х
1	REPORT EQUIPMENT ASSETS		Х
1	COMSEC EQUIPMENT ACCOUNTABILITY		Х
1	COMSEC EQUIPMENT REPORT		X
1	MAINT JOURNAL & MASTER STATION LOG		Х
2	RECEIVE WEATHER FORECAST	X	
2	EQUIPMENT BACKUP STATUS REPORT		X
2	REPORT FREQUENCY INTERFERENCE		X
3	ANALYZE WEATHER DATA FOR SIG IMPACT		Х
3	SITE SPECTRUM ASSESSMENT		Х
3	GENERATE ENGINEER SUPPORT REQUEST	X	
3	GENERATE LOGISTIC ESTIMATE	Х	
3	GENERATE NBC 1/2/3/4/5/6	Х	
3	GENERATE PERSONNEL STATUS	X	
3	GENERATE UNIT MEDICAL STATUS	X	
3	GENERATE UNIT STRENGTH REPORT	Х	
3	MAINTAIN TROOP LISTS/UNIT REQ	Х	
3	RECEIVE OPERATIONS ORDER	X	
3	REPORT CLASS VII & IX STATUS	X	
3	REP DAYS OF SUPPLY FOR COMSUMABLES	Х	
3	REPORT ENEMY ACTIVITY/WEAPONS	X	
3	REPORT ENEMY CONTACT	X	
_. 3	REPORT FRIENDLY UNIT STATUS	X	
3	REP SUFFLY SHORTAGE/OPN CONSTRAINTS	Х	
3	REQUEST IMMED ENGAGE. TARGET NONNUC	X	
. 4	MIJI REPORT GENERATION		X

SECTION II. IDENTIFICATION OF HARDWARE REQUIREMENTS

IDENTIFICATION OF HARDWARE REQUIREMENTS

CANDIDATE SOLUTIONS ECHELON: BN

TYPE UNIT: SIGNAL UNITS OPERATOR: EN COMMANDER

HIGH PAYOFF TASKS TO BE AUTOMATED	1		HARD	WARE O	PERATI	ONAL CAP	ABILIT	Y						
	!		DEV	ITEM				• • • • • • •						
	:		PCU	(V1/V2) OR '	ICU (VI)	V 2)		• • • • • • • • •					
	;	•	HTT				•	• • • • • • • • • • • • • • • • • • • •	:		•			
	OPER	ACT DIS-	OPN GRAP	FMT	FREE	AUDIO/	PRO-	DATA	XA?	VAV	TGT	SENSOR	TOB SEN FREE DRW GRAPHICS	DATA
RECEIVE WEATHER FORECAST MAINT NEAR REAL TIME PJH NET STATUS DISPLAY RADIO RELAY & SYS DIAGRAM REQUEST FOR COMSEC KEY EQUIPMENT BACKUP STATUS REPORT MAINTAIN NEAR REAL TIME NET STATUS DECEMBER HAZCON REPORT	1 1	. 2	! !	: 3	: 1	· 2	3	3	. 2	:	•		. 1	3
MAINT NEAR REAL TIME PUH NET STATUS	1 1	; 3	; 2	. 3	: 3	: 3	3	: 3	3	; 1		2	:	. 3
DISPLAY RADIO RELAY & SYS DIAGRAM	1.1	; 3	: 3	: 2	: 2	: 3	: 3	: 3	: 3				: 1	; 3-
REQUEST FOR COMSEC KEY	: 1	; 3	: 1	, 2	: 2	; 3	. 3	3		;		: 2		: 3
EQUIPMENT BACKUP STATUS REPORT	: 1	; 3	1 1	; 3	: 2	: 2	: 3	; 3	3		1 1	: 2	. 1	: 3
MAINTAIN NEAR REAL TIME NET STATUS	: 1	: 3	. 1	; 3	. 2	; 3	: 3	: 3	; 3	. 1	. 1	: 3		: 3
RECEIVE HAZCON REPORT	; ;	; 3	; 2	; 3	; 2	; 3	. 2	; 3	. 2	; ;	; ;	; 3	: :	3
SOI DISTRIBUTION	1.1	; 3	2	: 3	1: 2	1 1	; 3	: 3·	: 2	1 1	1 1		. 1	: 3
EVALUATES STATUS REPORTS	: 1	: 2	; 2	: 2	; 2	: 3	3	: 3	3		: :		: !	: 3
MIDI REPORT GENERATION	1 1	; 3	; 3	: 3	: 2	; 3	3	: 3	: 3	1		3	1 1	: 3
AIR SUPPORT REQUIREMENT	; 1	; 3	: 3	; 3	1 2	; 2	: 3	: 3	. 3		:	: :		
AIRHEAD LOCATIONS/ACTIVITY	: 1	3	3	: 3	. 2	. 2	3	. 3	: 3	; ;			:	. :
DIST. AFU AMMUNITION SUPPLY RATE	1.1	; 3	; 3	: 3	: 2	. 2	: 3	. 3	3					: :
DISTRIBUTE AIR STRIKE WARNING	. :	. 3	: 3	: 3	2	: 2	- 3	. 3	. 3		:	;	. 3	. :
DISTRIBUTE CHEMICAL DOWNWIND REPORT	. 1	: 3	; 1	3	: 2	1 2	. 3	: 3	1		:		:	2
DIST COMMANDER'S LOGISTIC STATUS	::	: 3	: 2	: 3	: 2	: 2	. 3	. 3	: 3		:			
DIST DAILY INTELLIGENCE SUMMARY		; 3	3	. 3	: 2	: 2	: 3	: 3	. 3	:				
DISTRIBUTE DAMAGE AVOIDANCE REPORT	. 1	. 3	: 3	: 3	: 2	: 2	: 3	. 3	; 3				. :	
DIST ELEC WARFARE MISSION SUMMARY	: 1	; 3	. 3	3	. 2	. 2	: 3	. 3	: 3			1	:	:
DISTRIBUTE ENEMY SITUATION REPORT	1	: 3	. 2	: 3	: 2	; 2	: 3	: 3	. 2			1		3
DIST FREG INTERFERENCE INFORMATION	: 1	; 3	; 3	3	: 2	; 2	: 3	: 3	3					
DIST FRIENDLY MUCLEAR STRIKE WARM	: :	3	3	: 3	2	. 2	: 3	3	: 3			:		
DIST LAND FORCES SITUATION REPORT		3	3	3	2	: 2	3	3	3					
DISTRIBUTE NEC 1/2/3/4/5/6 REPORTS	1	3	3	. 3	2	2	1	3						
DISTRIBUTE SPECIAL OPERATION REPORT	1	3	3	3	2	2	3	3	2	:		:	:	·
DIST SUPPORT-BATTLEFIELD GEOMETRY	. :	: 3	3		2	. 2	3	. 3	3	-				-
ISSUE COMMAND DIRECTIVES		. 3	3	3	2	. 2	3	3		-			3	:
ISSUE COOR. DIRECTIVES TO NODES	1	: 3	. 3	. 3	2	3	3	3		:		,	3	3
ISSUE OPERATIONS ORDER	. }	3	. 3	: 3	2	3	3	3			:	•	3	-
OPERATIONS PLAN CHANGE	•	. 3		. 3	2	3	.7	3	•	•	•	•	3	·
EQUIPMENT BACKUP STATUS REPORT MAINTAIN NEAR REAL TIME NET STATUS RECEIVE HAZCON REPORT SOI DISTRIBUTION EVALUATES STATUS REPORTS MIJI REPORT GENERATION AIR SUPPORT REQUIREMENT AIRHEAD LOCATIONS/ACTIVITY DIST. AFU AMMUNITION SUPPLY RATE DISTRIBUTE AIR STRIKE WARNING DISTRIBUTE CHEMICAL DOWNWIND REPORT DIST COMMANDER'S LOGISTIC STATUS DIST DAILY INTELLIGENCE SUMMARY DISTRIBUTE DAMAGE AVOIDANCE REPORT DIST ELEC WARFARE MISSION SUMMARY DISTRIBUTE ENEMY SITUATION REPORT DIST FRIENDLY NUCLEAR STRIKE WARN DIST FRIENDLY NUCLEAR STRIKE WARN DIST LAND FORCES SITUATION REPORT DISTRIBUTE NEC 1/2/3/4/5/6 REPORTS DISTRIBUTE SPECIAL OPERATION REFORT DIST SUPPORT-BATTLEFIELD GEOMETRY ISSUE COMMAND DIRECTIVES ISSUE COPERATIONS ORDER OPERATIONS PLAN CHANGE PERPARE SIG ANNEX OPERATIONS ORDER		3	3	. 3	2	2	3	3	3	:			3	3

CORPTORINATION OF BARDWARE REWINFERED TO

CANDIDATE SOUTTIONS

TYPE UNIT: SIGNAL UNITS ECHELON: BN OPERATOR: BN COMMANDER HARDWARE OPERATIONAL CAPABILITY HIGH PAYOFF TASKS TO BE AUTOMATED PCU (V1/V2) OR TCU (V1/V2) TOPER FACT TOPN TERMINATED AUDIO/ TPRO- ISTORE DIGITAL TPOS/ FAUTO SETUPID TOH SEN TPROCT 10N DIS- GRAP TEXT STEXT SVISUAL SCESS DATA SMAP NAV STGT SENSOR FREE DEW DATAS IMOVE IPLAY HICS HMSG HMSG HALERT HDATA HE HEACKGRD HDATA HACQ HINPUT HGRAPHICS BUSH RECEIVE OPERATIONS ORDER 11 1 3 1 3 1 3 1 2 1 2 2 ; 1 ; 1 ; 1 RECEIVES COMMAND STATUS . 1 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 1 | 1 | 1 | 1 | 1 1 1 1 1 1 1 REPORT BATTLEFIELD GEOMETRY 11 13 13 13 12 11 13 13 1 -1 - 1 - 1 - 1 - 1REPORT C2 INFORMATION SYS STATUS 1 1 3 1 2 1 3 1 2 1 1 3 . 3 : 3 REPORT CLASS VII & IX STATUS
REPORT COMMUNICATIONS STATUS 1 3 1 1 1 3 1 2 : 1 1 3 1 1 1 3 1 2 1 1 1.1 REP DAYS OF SUPPLY FOR COMSUMABLES : 3 : 1 : 3 : 2 : 1 : 3 : 3 . REPORT ENEMY ACTIVITY/WEAPONS : 1 : 3 : 3 : 2 : 1 3 3 ; REPORT ENEMY CONTACT :1 : 3 : 3 : 3 : 2 REPORT FRIENDLY UNIT STATUS 1 1 3 1 3 1 3 1 2 3 3 REP SUPPLY SHORTAGE/OPN CONSTRAINTS : 1 : 3 : 1 : 3 : 2 : 1 3 ; 3 ; 3 : 2 : 3 . 2 . 2 REQUEST ADA PRIORITY : 1 . 3 3 3 REQUEST INMED ENGAGE. TARGET MONNUC : 1 : 3 : 3 : 3 : 2 : 3 3 TRANSFER OF AUTHORITY 11 1 3 1 1 1 3 1 2 1 1 1 3 1 3 1

HARDWARE SOLUTION: HTU

RATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

IDENTIFICATION OF HARDWARE REQUIREMENTS

CANDIDATE SOLUTIONS

TYPE UNIT: SIGNAL UNITS	ECHELON: BN OP								OPERATO	OPERATOR: BN S2/S3							
HIGH PAYOFF TASKS TO BE AUTOMATED	HARDWARE OPERATIONAL CAPABILITY																
	;		DEV :	TEM		•							•	;			
	;	• • • • • •	PCU	(V1/V2)	OR S	CU (V1/)		• • • • • • • • • • • • • • • • • • • •						,			
	;	•••••	HTU			; ;			:								
	OPER ON MOVE	DIS-	OPN GRAP	FMT TEXT MSG	: TEXT	:VISUAL	PRO- CESS DATA	STORE	DIGITAL MAP BACKGRD	:POS/ :NAV :DATA	AUTO TGT ACQ	:ETLFLD :SENSOR :INPUT	TCH SEN FREE DRW GRAPHICS	PROC			
RECEIVE WEATHER FORECAST MAINT NEAR REAL TIME PJH NET STATUS DISPLAY RADIO RELAY & SYS DIAGRAM REQUEST FOR COMSEC KEY EQUIPMENT BACKUP STATUS REPORT MAINTAIN NEAR REAL TIME NET STATUS RECEIVE HAZCON REPORT SOI DISTRIBUTION EVALUATES STATUS REPORTS MIJI REPORT GENERATION AIR SUPPORT REQUIREMENT AIRHEAD LOCATIONS/ACTIVITY DIST. AFU AMMUNITION SUPPLY RATE DISTRIBUTE CHEMICAL DOWNWIND REPORT DIST COMMANDER'S LOGISTIC STATUS DIST DAILY INTELLIGENCE SUMMARY DISTRIBUTE DAMAGE AVOIDANCE REPORT DIST ELEC WARFARE MISSION SUMMARY DISTRIBUTE ENEMY SITUATION REPORT DIST FREQ INTERFERENCE INFORMATION DIST FRIENDLY NUCLEAR STRIKE WARN IST LAND FORCES SITUATION REPORT DISTRIBUTE NBC 1/2/3/4/5/5 REPORTS DISTRIBUTE SPECIAL OPERATION REPORT DIST SUPPORT-BATTLEFIELD GEOMETRY	1.1	2	1 1	; 3	: 1	; 2	;	; 3	: 2	1 1	1	; 1	1 1	; 3			
MAINT NEAR REAL TIME PUH NET STATUS	: 1	: 3	: 2	: 3	; 3	: 3	; 3	: 3	3	1	; 1	: 2	;	3			
DISPLAY RADIO RELAY & SYS DIAGRAM	1.1	: 3	; 3	1 2	: 2	: 3	; 3	: 3	3	1 1	1.1	1 1		3			
REQUEST FOR COMSEC KEY	: 1	: 3	1 1	; 2	: 2	; 3	: 3	: 3	: 1	1 1	1.1	: 2	1	3-			
EQUIPMENT BACKUP STATUS REPORT	: 1	: 3	1 1	: 3	; 2	1 2	: 3	; 3	; 3	; 1	1.1	: 2	1 1	3			
MAINTAIN NEAR REAL TIME NET STATUS	1 1	: 3	: 1	: 3	: 2	; 3	: 3	; 3	3	1 1	: 1	: 3	1 1	. 3			
RECEIVE HAZCON REPORT	: 1	: 3	: 2	: 3	: 2	; 3	: 2	; 3	: 2	: 1	1.1	: 3	1	3 3			
SCI DISTRIBUTION	: 1	: 3	: 2	: 3	: 2	1 1	: 3	; 3	2	1 1	1.1	: 1	; 1	: 3			
EVALUATES STATUS REPORTS	: 1	: 2	: 2	: 2	; 2	; 3	1 3	: 3	3	: 1	1 1	1 1-	1 1	3 3			
MIJI REPORT GENERATION	: 1	; 3	: 3	: 3	2	: 3	: 3	: 3	: 3	: 1	: :	: 3		: 3			
AIR SUPPORT REQUIREMENT	: 1	: 3	: 3	: 3	; 2	2	3	: 3	; 3		::	1	:	1 1			
AIRHEAD LOCATIONS/ACTIVITY	: 1	; 3	; 3	: 3	1 2	: 2	: 3	: 3	: 3		: 1		: 1	1			
DIST. AFU AMMUNITION SUPPLY RATE	; 1	; 3	: 3	; 3	: 2	: 2	' 3	1 3	3			• :					
DISTRIBUTE AIR STRIKE WARNING	: :	: 3	: 3	; 3	: 2	; 2	; 3	. 3	: 3			:	. 3	: :			
DISTRIBUTE CHEMICAL DOWNWIND REPORT	; :	: 3	: 1	: 3	: 2	2	' 3	3	: :	•		•	. 1	. 2			
DIST COMMANDER'S LOGISTIC STATUS	: 1	3	: 2	; 3	2	; 2	: 3	1 3	. 3	. :	: :	. 1					
DIST DAILY INTELLIGENCE SUMMARY	1 1	: 3	; 3	3	: 2	: 2	: 3	: 3	. 3	•	. :		1				
DISTRIBUTE DAMAGE AVOIDANCE REPORT	: 1	: 3	: 3	; 3	1.2	: 2	: 3	. 3	3			. :	:				
DIST ELEC WARFARE MISSION SUMMARY	; 1	: 3	: 3	: 3	: 2	: 2	3	3	3	. 1		1 1	1				
DISTRIBUTE ENEMY SITUATION REPORT	1.1	. 3	2	; 3	; 2	: 2	. 3	. 3	. 2	1	: :	: 1		: 3			
DIST FREQ INTERFERENCE INFORMATION	; 1	; 3	: 3	; 3	2	; 2	: 3	; 3	3	: 1	1	. i		ı 1			
DIST FRIENDLY NUCLEAR STRIKE WARN	: i	: 3	: 3	: 3	; 2	; 2	: 3	. 3	; 3		: :	:	:	1.1			
IIST LAND FORCES SITUATION REPORT	: 1	: 3	: 3	: 3	1 2	: 2	: 3	: 3	3	:	1.1	:	-	•			
DISTRIBUTE NBC 1/2/3/4/5/5 REPORTS	7.1	; 3	; 3	: 3	. 2	2	. 3	: 3	•		: 4	:	:	:			
DISTRIBUTE SPECIAL OPERATION REPORT	: 1	: 3	: 3	; 3	: 2	: 2	; 3	. 3	; 2		: :	:					
	; 1	: 3	; 3	: 3	: 2	: 2	: 3	. 3	. 3		. :	. :					
ISSUE COMMAND DIRECTIVES	1 1	: 3	: 3	: 3	· 2	: 2		3	: :	:	•		3	. 3			
ISSUE COOR. DIRECTIVES TO NODES	1 1	; 3	; 3	: 3	1 2	3		3	•		: :	•	3	3			
ISSUE OPERATIONS ORDER		: 3		; 3	; 2		3	3	:		: :	;	3	3			
OPERATIONS PLAN CHANGE	: 1	1 3	: :	. 3	. 2	3	- 3	3	:	. :	. :	i	3	•			
PERPARE SIG ANNEX OPERATIONS ORDER	; 1	: 3	: 3	٠ 3	2	2	3	3	3	:	: :		. 3	3.			

COMMISSIONATION OF HARDWARD REQUIREMENTS

CANDIDATE SOLUTIONS

TYPE UNIT: SIGNAL UNITS			Ū.	ECHEL	N: 33				OPERATO	R: 3	3N S2.5	3		
HIGH PAYOFF TASKS TO BE AUTOMATED	:		HARD	WARE O	PERATIO	NAL CAP	ABILIT	 Y						
			DEA	ITEM										
	;		PCU	(V1/V2)	OR	CO (VI/	V 2)							,
	;		HTU					_	:		,			
	OPER ON	:DIS-	OPN GRAP	TEXT	TEXT	:AUDIO/ :VISUAL		ATAC:	: :DIGITAL :MAP :BACKGRD	POS/ NAV DATA	TGT			
	:	;	;	1	1	1	;	;	1	;	;	i i	i	•
RECEIVE OPERATIONS ORDER	1 1	: 3	; 3	; 3	: 2	: 2	: 3	; 3	: 2	1 1	1 1	1 1		1 1
RECEIVES COMMAND STATUS	; 1	; 3	: 3	; 3	2	: 2	; 3	. 3		: 1	1.1	: :	i i	: 3
REPORT BATTLEFIELD GEOMETRY	: 1	: 3	; 3	: 3	: 2	; 1	: 3	; 3	i	1		1 1	3	: 3
REPORT C2 INFORMATION SYS STATUS	: 1	' 3	: 2	; 3	: 2	1 1	: 3	· 3	•		:	1	1	: 3
REPORT CLASS VII & IX STATUS	1 1	: 3	: :	; 3	: 2	1 1	; 3	. 3		1 1	1 1	: :	1 1	: 2
REPORT COMMUNICATIONS STATUS	: 1	: 3	: 1	; 3	: 2	: 1	; 3	; 3	;	1	: 1	' 1	2	2
REP DAYS OF SUPPLY FOR COMSUMABLES	: 1	; 3	: 1	3	: 2	1 1	: 3	; 3	: 2	1	: :	: :	1	; 3
REPORT ENEMY ACTIVITY/WEAPONS	: 1	: 3	; 3	; 3	: 2	ii	; 3	; 3	٠ 3		i i	1 1	. 3	
REPORT ENEMY CONTACT	: 1	: 3	: 3	: 3	: 2	; 1	; 3	3	: 3	: 1	1	1 1	; 3	: :
REPORT FRIENDLY UNIT STATUS	; 1	; 3	: 3	: 3	; 2	: 1	; 3	; 3	2	. 1	, 1	: :	: 2	; 2
REP SUPPLY SHORTAGE/OPN CONSTRAINTS	1.1	; 3	: 1	: 3	; 2	: 1	; 3	: 3	1 1	; ;	1 1	: 1	1 1	2
REQUEST ADA PRIORITY	1.1	: 3	: 2	; 3	: 2	; 2	; 3	; 3	: 2	1 1	: 1	1	2	: 1
REQUEST IMMED ENGAGE. TARGET NONNUC	1.1	: 3	: 3	; 3	: 2	: 3	; 3	: 3	: 3	1 1		,	2	; i
TRANSFER OF AUTHORITY	: 1	3	.: 1	: 3	: 2	1 1	. 3	: 3	. 1	. :	. 1	1		1 1

HARDWARE SOLUTION: PCU(V1)

RATING SCALE:

- 1 XO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

IDENTIFICATION OF HARDWARE REQUIREMENTS

CANDIDATE SOLUTIONS

TYPE UNIT: SIGNAL UNITS ECHELON: IND HODE OPERATOR: SITE COMMANDER

HIGH PAYOFF TASKS TO BE AUTOMATED	HARDWARE OPERATIONAL CAPABILITY														
			DEV 1	TEM										• • • • •	
			PCU	(V1/V2	OR 7	CU (V1/)			:						
	;		HTU			· • • • • • • • • • • • • • • • • • • •			1		:				
	ON	ACT DIS-	GRAP	:TEXT	TEXT	:VISUAL	CESS	CDATA	MA?	NAV	: TGT	SENSOR	TCH SEN	DATA	
REPORT SITE EQUIPMENT STATUS	1 1	! 3	1 1	; ; 2	; 2	; ; 2	: 2	;	2	;	1 1	1 1	1 1	3-	
REPORT EQUIPMENT ASSETS	: 1	: 3	: 1	; 2	; 2	1 1	: 2	. 2	: 2	. 1	1.1	: 1	. 1	3	
REPORT SITE EQUIPMENT STATUS REPORT EQUIPMENT ASSETS RECEIVE WEATHER FORECAST ANALYZE WEATHER DATA FOR SIG IMPACT COMSEC EQUIPMENT ACCOUNTABILITY COMSEC EQUIPMENT REPORT EQUIPMENT BACKUP STATUS REPORT MAINT JOURNAL & MASTER STATION LOG SITE SPECTRUM ASSESSMENT MICH REPORT GENERATION REPORT FREQUENCY INTERFERENCE GENERATE ENGINEER SUPPORT REQUEST	1 1	; 2	1 1	: 3	;]	1 1	; 2	1 3	; 3	; 1	1 1	1 1	, ;	; 3	
ANALYZE WEATHER DATA FOR SIG IMPACT	: 1	: 3	: 3	: 1	1.1	1 1	: 3	: 3	: 3	2	1 1	1 1	3	. 3	
COMSEC EQUIPMENT ACCOUNTABILITY	11	; 3	; 1	: 2	2	; 3	; 3	; 3	; 1	1	1 1	1 1		: 3	
COMSEC EQUIPMENT REPORT	1	; 3	1 1	; 2	; 2	; 3	: 3	3		;		1 1	1 1	3	
ECTIPMENT BACKUP STATUS REPORT	1 1	; 3	1	; 3	; 2	. 2	. 3	: 3	. 3		11	; Ž		1 3	
MAINT JOURNAL & MASTER STATION LOG	11	; 3	: 1	; 3	: 2	: 1	; 3	3	. 1	; i			1	; 3	
SITE SPECTRUM ASSESSMENT	1.1	: 3	2	; 3	2	1 1	. 3	: 3	: 2	: 1		1 1	Ī	- 3	
MIJI REPORT GENERATION	: 1	1 3	; 3	; 3	2	; 3	. 3	: 3	: 3	: :	; :	: 3		. 3	
REPORT FREQUENCY INTERFERENCE	: 1	; 3	: 3	; 2	; 2	, 3	; 3	. 3	. 3	1	: :			: 3	
GENERATE ENGINEER SUPPORT REQUEST	: 1	; 3	; 3	; 3	; 2	; 3	: 3	: 3	2	: 1	: 1	:	3	. :	
GENERATE LOGISTIC ESTIMATE	: 1	: 3	: 1	: 3	: 2	; 3	: 3	; 3	. 1		. :		3	: 1	
GENERATE NBC 1/2/3/4/5/6	: 1	; 3	: 3	; 3	. 2	; 3	: 3	; 3		: 1	; ;		2	. 1	
GENERATE DEDCANNEL CTATUS	1 1	: 3	: 1	: 3	; 2	: 3	. 3	: 3		. 1				. 3	
GENERATE UNIT MEDICAL STATUS	: 1	: 3	: 1	: 3	. 2	; 3	: 3	3	. :			1 1			
GENERATE UNIT STRENGTH REPORT	1.1	: 3	: 1	: 3	2	: 3	: 3	; 3	1			. 1		. 2	
	: 1	: 3	: 3	: 3	2	; 3	. 3	3	. 2			:		3	
MAINTAIN THOOP LISTS/UNIT REQ RECEIVE OPERATIONS ORDER	1 1	: 3	: 3	: 3	: 2	3 3 3 3	. 3	3	2			. :		•	
REPORT CLASS VII & IX STATUS	, 1	. 3		; 3	. 2		. 3	. 3		. :		1 1	:	2	
REP DAYS OF SUPPLY FOR COMSUMABLES	: 1	- 3	:	: 3	; 2	:	. 3	3	: 2	. :				3	
REPORT ENEMY ACTIVITY/WEAPONS	; 1	3	; 3	3	: 2		. 3	3	. 3				3	:	
REFORT ENEMY CONTACT	1.1	. 3	. 3	3	: 2	1 1	1.3	3	3		:		3		
MAINTAIN THOOP LISTS/UNIT REQ RECEIVE OPERATIONS ORDER REPORT CLASS VII & IX STATUS REP DAYS OF SUPPLY FOR COMSUMABLES REPORT ENEMY ACTIVITY/WEAPONS REFORT ENEMY CONTACT REPORT FRIENDLY UNIT STATUS REP SUPPLY SHORTAGE/OPN CONSTRAINTS REQUEST IMMED ENGAGE. TARGET NONNUC	: 1	: 3	: 3	. 3	2	; 1	. 3	. 3	2		:	•		. 4	
REP SUPPLY SHORTAGE/OPN CONSTRAINTS	1	3	: 1	: 3	1 2	: :	3	3			:		:	2	
REQUEST IMMED ENGAGE TARGET NONNUC		; 3	; 3	. 3	. 2	, 3	. 3	, 3	3	:	:	:		:	

HARDWARE COLUTION: POU(VI)

BATING SCALE:

- 1 NO CONTRIBUTION
- 2 MODERATE CONTRIBUTION
- 3 ESSENTIAL CONTRIBUTION

SECTION III. OPERATIONAL BENEFITS

OPERATIONAL BENEFITS

Operational benefits of an HTU for Signal commanders are as listed below.

A. CORPS

l. Commander, Corps Signal Brigade, Area Signal Battalion, Signal Support Battalion. The commander will derive increased mobility on the battlefield without losing access to critical and time-sensitive information. Timely access to this information will permit the commander to make more accurate decisions more quickly. The commander will be able to input information, as he observes it, into the Brigade's data base. This information will be more easily accessible by the commander's staff. HTU will provide the brigade commander and all subordinate battalion commanders with access to a common data base and will allow for data communication between them.

B. DIVISION

l. The commander of the Division Signal Battalion will derive increased mobility on the battlefield without losing access to critical and time-sensitive data. The HTU will permit the commander to share and communicate data with the Assistant Division Signal Officer. Because the commander will be able to share data with his staff from remote areas or when mobile, he will be able to be more responsive to the staff for both tactical and technical decision-making.

CANDIDATES FOR BATTALION COMMANDER'S HANDHELD COMPUTER

S0008 RECEIVE WEATHER FORECAST MAINTAIN NEAR REAL TIME PJH NETWORK STATUS S 01 26 DISPLAY RADIO RELAY AND SYSTEM DIAGRAM S0141 REQUEST FOR COMSEC KEY S0153 S0163 EQUIPMENT BACKUP STATUS REPORT S 0171 MAINTAIN NEAR REAL TIME NETWORK STATUS S0175 RECEIVE HAXCON REPORT S0197 SOI DISTRIBUTION S0213 EVALUATES STATUS REPORTS S 0 2 1 5 MIJI REPORT GENERATION S0251 COMMAND AND CONTROL S0252 AIR ALLOCATION REQUEST S0253 AIR SUPPORT REQUIREMENT AIRCRAFT LOCTIONS/ACTIVITY S0256 DISTRIBUTE AFU AMMO SUPPLY RATE S0258 S0259 DISTRIBUTE AIR STRIKE WARNING S0260 DISTRIBUTE CHEMICAL DOWNWIND REPORT S0261 DISTRIBUTE COMMANDER'S LOGISTICS STATUS S0262 DISTRIBUTE DAILY INTEL SUMMARY S0263 DISTRIBUTE DAMAGE AVOIDANCE REPORT DISTRIBUTE ELECTRONIC WARFARE MISSION REPORT S0265 S0266 DISTRIBUTE ENEMY SITUATION REPORT S0267 DISTRIBUTE FREQUENCY INTERFERENCE INFORMATION S0268 DISTRIBUTE FRIENDLY STRIKE WARNING S0269 DISTRIBUTE LAND FORCES SITUATION REPORT DISTRIBUTE NBC 1/2/3/4/5/6 REPORTS S0271 S0272 DISTRIBUTE SPECIAL OPERATION REPORT S0273 DISTRIBUTE SUPPORT - BATTLEFIELD GEOMETRY S0285 ISSUE COMMAND DIRECTIVES S0286 ISSUE COORDINATING DIRECTIVES TO NODES S0287 ISSUE OPERATIONS ORDER S0289 OPERATIONS ORDER CHANGE S0291 PREPARE SIGNAL ANNEX OPERATIONS ORDER S0292 RECEIVE OPERATIONS ORDER S0293 RECEIVE COMMAND STATUS S0294 REPORT BATTLEFIELD GEOMETRY S0295 REPORT C2 INFORMATION SYSTEMS STATUS S0296 REPORT CLASS VII AND IX STATUS S0297 REPORT COMMUNICATIONS STATUS S0298 REPORT DAYS OF SUPPLY FOR CONSUMABLES S0299 REPORT ENEMY ACTIVITY/WEAPONS REPORT ENEMY CONTACT S0300 S0301 REPORT FRIENDLY UNIT STATUS S0302 REPORT SUPPLY SHORTAGE/OPERATIONAL CONSTRAINTS S0303 REQUEST ADA PRIORITY S0304 REQUEST IMMEDIATE ENGAGEMENT TARGET NONNUCLEAR S0306 TRANSFER OF AUTHORITY

OPERATIONAL BENEFITS

Operational benefits to be derived from fielding the PCU Mobile Subscriber Equipment (MSE) nodes are listed below.

A. CORPS/DIVISION

- 1. The Node Commander (Platoon Leader) of an MSE area node will have access to a number of automated planning and management tools in the Node Management Facility (NMF).
- 2. Ready access to the brigade/battalion data base will permit the Node Manager to make more accurate and more timely decisions.
- 3. Placing a PCU in the NMF will provide the Node Manager access to a distributed data base. This will be used for sharing and communicating data between higher headquarters and other Node Managers.
- 4. Because routine admin/log actions will be accomplished more efficiently with automation in the NMF, the Node Commander will have more time to manage technical signal problems as well as tactical problems.
- 5. Frequency management tools residing in this hardware will have the effect of improving the quality of communications by decreasing co-site interference or interference with other off-site emitters.
- 6. Automation of some node management tasks will improve the combat readiness of the site by allowing more timely reporting and requisitioning of combat essential stores and personnel.

MSE NODE MANAGEMENT FACILITY (NMF) AUTOMATION REQUIREMENTS

REPORT SITE EQUIPMENT STATUS S0006 REPORT EQUIPMENT ASSETS S0007 RECEIVE WEATHER FORECAST S0008 ANALYZE WEATHER DATA FOR SIGNAL IMPACT S0009 COMSEC EQUIPMENT ACCOUNTABILITY S01 49 COMSEC EQUIPMENT REPORT S0150 EQUIPMENT BACKUP STATUS REPORT S0163 S0170 MAINTAIN JOURNAL AND MASTER STATION LOG SITE SPECTRUM ASSESSMENT S0196 MIJI REPORT GENERATION S0215 REPORT FREQUENCY INTERFERENCE S0247 GENERATE ENGINEER SUPPORT REQUEST S0276 GENERATE LOGISTIC ESTIMATE S0277 GENERATE NBC 1/2/3/4/5/6 S0278 GENERATE PERSONNEL STATUS S0279 S0283 GENERATE UNIT MEDICAL STATUS GENERATE UNIT STRENGTH REPORT S0284 MAINTAIN TROOP LISTS/UNIT REQUIREMENTS S0288 RECEIVE OPERATIONS ORDER S0292 REPORT CLASS VII AND IX S0296 REPORT DAYS OF SUPPLY FOR CONSUMABLES S0298 REPORT ENEMY ACTIVITY/WEAPONS S0299 REPORT ENEMY CONTACT S0300 REPORT FRIENDLY UNIT STATUS S0301 REPORT SUPPLY SHORTAGE/OPERATIONAL CONSTRAINT S0302 REQUEST IMMEDIATE ENGAGEMENT TARGET NONNUCLEAR S0304

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SECTION IV. OPERATIONAL BURDENS

OPERATIONAL BURDENS

Operational burdens associated with fielding of the Handheld Terminal (HHT) in signal units are as follows:

A. TRANSPORTABILITY

The HHT is transportable as a handheld device.
 No transportation degradation of the user is expected.

B. TRAINING

- 1. Commanders and potential commanders will require NET for HTU operations.
- 2. HTU operation must be incorporated into SIGCEN professional development courses.
- Technical manuals for the operation and maintenance of the HTU must be provided to Signal users.

C. MAINTENANCE

 The scheme for organizational, intermediate, and higher-level maintenance will be defined in ACCS program documentation.

OPERATIONAL BURDENS

Operational burdens associated with fielding of the Portable Computer Unit (PCU) in the Mobile Subscriber Equipment (MSE) Node Management Facility (NMF) are listed below.

A. TRANSPORTABILITY

 The PCU will be transportable in the node management shelter. No transportation degradation of the user is expected.

B. TRAINING

- Signal leaders and potential leaders will require NET for PCU operations.
- 2. PCU operation and utility must be incorporated into SIGCEN professional development courses.
- 3. Technical manuals for the operation and maintenance of the PCU must be provided to Signal users.

C. MAINTENANCE

- 1. The scheme for organizational, intermediate, and higher level maintenance will be defined in ACCS program documentation.
- 2. MSE organizational and doctrinal documents will require adjustment to reflect PCU maintenance as a part of the larger MSE maintenance and support plan.

SECTION V. MFA MAA CORRECTIVE ACTION SUMMARY

MFA MAA CORRECTIVE

ACTION SUMMARY

BDP DEF (1986)

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180 182 238

SECTION VI. USER INTERFACE REQUIREMENTS

'NO REQUIREMENT IDENTIFIED

SECTION VII. QUANTITY/DISTRIBUTION OF DEVICES

TOE	LEVEL	TYPE OF UNIT	: TAA 92 : COMPO : : 1-AA	HET	PC	J	: TC	₩.	DEV ITEM	DESIGNATED		
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	:	; ;		,	i :							
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11066L	;	1 1	: 10	: 1(10); 2(20);	0(0)	0(0):	0(0);	0(0):	PCU - \$3, \$2		
11066L	1	* * * * * * * * * * * * * * * * * * *	. 0	0 0)(0(0);	0(0)	(0(0):	0(0)	0(0):			
110671	1	. AREA SIG CO	36	, : 0(0); 2(72);	0(0)	; ; 0(0);	0(0)	0(0)	POU-SIG NODE PLT LDR		
110671	;	t 1	; 20	0 0); 2(40);	0(0)	0(0):	0(0)		,		
11067L	t .	1	; 0						0(0)			
	;		:		1		1			i i		
11058L	1	; SIG SUPPORT CO	: 18	0 0); 1(18);	0(0)	0 (0):	0(0);	0(0):	PCU-SIG NODE PLT LDR		
11068L	;	1	: 10	: 0(0); 1(10);			0(0):	0(0)	i •		
110681	;	•	: 0	: 0(0)); 0(0);		: 0(0);	0(0)	0(0):	•		
		SUBTOTALS:										
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			2	10		. 0	0	0	0			
			3	0	0	0	0	· 0	0			
		GRAND TOTALS:		28	196	٥	0	ô	0			

TOE	: LEVEL	: TYPE OF UNIT	COMP	O ; PCU ; TCU ; TCU ;					DEV	ITEM:	DESIGNATED					
	:		: 2-NG : 3-AR				(V1) ;	(V2	()	(V)	()	(72) ;		:	USER
	; :	; ;	- -	- -		† -	;		·†-		· ;		†		·†	
1435L	: CORPS	: AREA SIGNAL BN	: 13	;	1(13):	9(117);	0 (0};	0 (0);	0 (0):	0 (0);	HIR - BX COB
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	1	ı t	1	;		:	1		;		:				;	
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445L	•	; ,	; 5	;	1(5);	7(35):	0 (0):	0 (0):	0 ((0	9 (0):	PCU - S3, S2
14451	*	1	; 0	;	0 (0):	0(0);	0 (0);	0 (0):) (0);	0 (0);	& SIG NODE PLT LDR
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			3			0	0		0		0)		0	
		GRAND TOTALS:				20	170		^		۸				۸	

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